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# USSR Report

ECONOMIC AFFAIRS



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## PLANNING AND PLAN IMPLEMENTATION

### MATYUKA OUTLINES STATISTICAL TASKS FOR 1985

Moscow VESTNIK STATISTIKI in Russian No 2, Feb 85 pp 3-13

[Article by I. Matyuka, chief of the Department of Summarized Statistics and Statistical Methodology, USSR TsSU [Central Statistics Administration], candidate of economic sciences: "The Work of the State Statistics Agencies in 1985"]

[Text] In 1985, the final year of the 11th Five-Year Plan, the state statistics agencies plan to carry out a large series of operations that were predetermined by decisions of the 26th CPSU Congress and subsequent Plenums of the CPSU Central Committee, by decisions of the party and government, and of the October 1984 Plenum of the CPSU Central Committee, which approved the Long-Term Program for Land Reclamation for the 12th Five-Year Plan and for the Period Until the Year 2000, and by the instructions and principles concerning that program's practical implementation which are contained in the speech made at the Plenum by General Secretary of the CPSU Central Committee, Comrade K. U. Chernenko.

As in the previous years, during this year the work of the statistics agencies is regulated by the plan for statistical and methodological projects for 1985 which were approved by the board of USSR TsSU in late 1984. It contains more than 1500 specifically named projects; they include projects the prompt carrying out of which will make it possible to carry out constant monitoring of the rate of fulfillment of the State Plan for the Economic and Social Development of the USSR in 1985 and to provide materials from that supervision to the party, Soviet, and economic agencies at all levels of state administration.

The elaboration of the economic-statistical materials concerning the rate of fulfillment of the plan for 1985, in addition to data concerning the development of the country's economy during the preceding years, will make it possible to analyze the results of the fulfillment of the State Plan for the Economic and Social Development of the USSR in 1981-1985.

It must be emphasized that the projects plan for USSR TsSU is oriented at the further deepening of statistical supervision and at the elaboration of the data that makes it possible to guarantee the comprehensive analysis of the entire process of expanded socialist reproduction, the effectiveness of the



use of the country's labor and material resources, the acceleration of scientific-technical progress in the branches of the national economy, the use of the production potential, the rate of carrying out major national-economic programs, primarily the Food Program and the Energy Program, the improvement of the economic mechanism, the raising of the national standard of living, and the development of the socialist way of life.

A number of new and important tasks in the further improvement of state statistics evolve from the decisions of the Politburo of the CPSU Central Committee concerning the results of the consideration, on 15 November 1984, of the draft versions of the State Plan for the Economic and Social Development of the USSR and the USSR State Budget for 1985, and from the instructions and conclusions contained in the speech made at the Politburo session by General Secretary of the CPSU Central Committee, Comrade K. U. Chernenko. These tasks include the more thorough study of the questions of intensifying social production, of accelerating scientific-technical progress, of guaranteeing economy measures in the use of labor and material resources, and of organizing statistical supervision of the creation of funds for above-plan economizing at enterprises and in oblasts, krais, and republics, which funds will be channeled to meet the social needs of the labor collectives, and primarily to improve the medical services provided to the public, to increase the production, planning, and contract discipline, to improve the system of economic administration and control, and to raise the national standard of living.

"The efforts of the party are aimed primarily at completing the intensification of the country's economy on the basis of the considerable acceleration of scientific-technical progress, and the complete improvement of the forms and methods of socialist management. It is only in this way that we can create the most advanced material-technical base that corresponds to the rigid standards of developed socialism, and, consequently, can guarantee the qualitatively new level in the welfare of the Soviet nation" (Chernenko, K., "To the Level of the Requirements of Developed Socialism," *KOMMUNIST*, No 18, 1984, p 7).

In 1985 research will continue on the available reserves in the branches of the national economy, in particular those reserves whose use will increase labor productivity and will accelerate the intensification of social production. There will be further development of the mechanized processing of report data as one of the most important conditions for improving the work of the state statistics agencies, especially in the direction of the more time-responsive use of its data for administering the national economy.

One of the leading places in the plan has been given to elaborations of the current and annual statistical reports, the data in which makes it possible to characterize the fulfillment of the planned assignments for scientific-technical progress in the branches of the national economy, and for the carrying out of measures aimed at the further increase in the effectiveness of social production which were stipulated by the 18 August 1983 decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Measures for Accelerating Scientific-Technical Progress in the National Economy."

Statistical supervision of the rate of implementation of the comprehensive nationwide state scientific-technical programs and the analysis of the indicators of scientific-technical progress in the national economy in 1985 are guaranteed, first of all, by the elaboration of the reports concerning production and the assimilation of new, more progressive, more productive technology in the branches of the national economy and simultaneously the withdrawal from production of obsolete designs, machinery, equipment, instruments, and other articles, the modernization of production equipment in industry, and also by the carrying out of one-time random studies of the renovation of output at the enterprises of a number of machine-building ministries and the special accounting of the models of new types of machinery, equipment, and various pieces of apparatus and instruments which were created in the USSR for the first time in 1984. Provision is made for the elaboration of the special statistical reports concerning the fulfillment of the assignments approved by USSR Council of Ministers, with regard to the assimilation of the production of new types of commodities intended for cultural, everyday, and household use.

In industry, construction, and agriculture, an especially large amount of attention is devoted to the replacement of obsolete technological processes and to the introduction of progressive technological processes, mechanization, and automation of the production processes. By means of the conducting in 1985 of a special accounting of the availability at production associations and enterprises of flexible production system and the fixed assets in the complete automation and mechanization of production processes, it is planned to collect additional information about this.

In 1985 there will be a continuation of the statistical supervision of the mechanization of labor-intensive heavy operations. One of the next tasks of the state security agencies in the field of technical progress consists in supervising the rate of fulfillment of the USSR pledges with regard to the resolution of the scientific-technical problems being worked out in cooperation with the CEMA member countries.

The plan for statistical projects for 1985 contains projects involving the constant supervision of the rate of fulfillment of the planned assignments for industrial production and for the development of that leading branch of the national economy, and constant supervision of the rate of the economic experiment that is being carried out. The tasks of the statistical agencies are to expand the elaborations of the report data concerning the associations (enterprises) that are newly included in the experiment, to reveal the influence of the employed planned indicators upon the results of the economic activity, to submit materials regularly to the administrative agencies, and to improve the statistical reports concerning industrial production.

There will continue to be a systematic elaboration of the statistical reports, the data of which characterizes the fulfillment of the planned assignments for production of industrial output in physical and monetary terms, the overall volume of the output that is sold, and the volume of that output with a consideration of the fulfillment of the pledges for shipments of it to the customers. These very important indicators of industrial production are elaborated not only for the country as a whole, but also in a statistical

breakdown by union republics, ministries, production associations, and enterprises.

Current reports guarantee statistical supervision of the development of production entities in Group B of industry, and make it possible to monitor the rate of fulfillment of the planned assignments for the production of consumer goods, isolating at such time the commodities that constitute prime necessities of life, those that are in mass demand, and those intended for the children's market. In order to intensify the monitoring of the fulfillment of the planned assignment for the production of consumer goods, one elaborates indicators of the volume of production of those commodities per rule of the wage fund for workers and employees for a number of ministries and departments for which that planned indicator is established, and also for the union republics.

Reports are a source of information concerning the technical level, quality, and grade specifications of many types of industrial output -- this one of the chief criteria for evaluating the effectiveness of production. This is data concerning the output with the highest category of quality in the overall volume of output, the amount of output for which the production associations and enterprises have had claims submitted to them by trade organizations as a result of the low quality of that output (with a separate indication of the consumer goods), which information is to be elaborated for many ministries, departments, and union republics.

The plan stipulates the fulfillment of a large volume of operations to supervise the number of industrial-production personnel employed in individual branches of industry and in ministries and departments, and to supervise the change in labor productivity, the use of work time, the fulfillment of individual-output quotas by pieceworkers, and the state of quota establishment for labor; operations to elaborate the reports that characterize the introduction of the scientific organization of labor into industry, the brigade form of organizing labor and providing incentives for it, and the reports concerning economic activity in industry; operations to analyze the monthly report data in the statistical breakdown of ministries and departments concerning the fulfillment of the planned assignments for production costs, concerning the amounts of saving achieved as a result of the reduction of the production costs, concerning the material expenditures for the production of output, etc.; and operations to collect reports on the fulfillment of the counterplans of associations and enterprises with regard to the above-plan increase in labor productivity and the reduction of the production costs of the output.

It is planned to elaborate the data concerning the balance sheet for the work positions for a number of machine-building ministries. Those materials will be of great importance when resolving questions of the efficient organization of labor, the use of those positions, and the employment rate of workers and employers; it is planned, as in previous years, on the basis of the reports to obtain a description of the availability and application of the existing production capacities, the movement and replacement of the equipment, as well as data concerning the rate of the capital repair of the fixed assets, the increase in capacities as a result of technical re-equipping, and other



measures. The possibilities of the economic analysis of these important questions will be considerably expanded after the elaboration of the balance sheet for the production capacities of the industrial enterprises for a number of types of output.

In 1985 a study is supposed to be conducted at the enterprises that are working under the conditions of the economic experiment, in order to obtain data about the effectiveness of the use of the production-development fund; and about the turnover rate of workers in industry for various reasons. Round-the-clock supervision of the use of the metal-processing equipment, automatic manipulators with programmed control, etc. will be organized at the enterprises.

In the project plan for 1985 for statistics in agriculture, the chief place is given to topics that are linked with the carrying out of a number of measures to assure its further improvement, which measures evolve from the decisions of the October 1984 Plenum of the CPSU Central Committee; with the resolution of the questions of the country's agroindustrial complex, the development of agricultural production -- its basic economic link; with the rate of implementation of the Food Program; with the elaboration of the report data concerning the sowing and harvesting of a number of agricultural crops being grown in accordance with industrial technological schemes, the chemicalization of agriculture, the application of mineral and organic fertilizers to improve the current year's harvest, as well as the mineral-fertilizers balance sheet for 1984 for a more thorough analysis of the application of those fertilizers.

In the light of the decisions of the October 1984 Plenum of the CPSU Central Committee, in the plan for statistical projects a large amount of attention is paid to elaborating a number of reports dealing with the country's territory and the various categories of farms, the data from which characterizes the fulfillment of the plans for the activation of irrigated and drained land, the total area of their use, and the actual size of the harvest of agricultural crops, the carrying out of the project drafting assignments for the production of output on those kinds of land in 1984, as well as their area and preparation for the 1985 harvest.

On the basis of the statistics for vegetable husbandry, a number of other important projects will also be carried out during the course of the year. These projects are linked with question of the introduction and assimilation of crop rotations, the refinement of the data concerning the gross harvest of agricultural crops in 1984, their actual harvest in 1985, and the final accounting of the sown areas, with the elaboration of the balance sheets for products of vegetable husbandry, etc. There will be a summing up of the results of the censuses of the fruit-and-berry and grape plantings.

There is a no less considerable volume of statistical operations for elaborating the reports that make it possible to maintain constant supervision over the state and development of animal husbandry in all categories of farms.

It is natural that in the plan for statistical projects dealing with the statistics of agriculture an important place is occupied by the elaboration of the time-responsive reports by the individual republics, krays, and oblasts

concerning the fulfillment of the plan for state purchases on the farms, the grain and industrial crops, potatoes, vegetables, fruits, livestock, milk, eggs, wool, and other output, and concerning the quality of the output being purchased; the reports for analyzing the development of the economy and the results of the economic activity of the kolkhozes, sovkhozes, and interfarm and agroindustrial enterprises, the introduction into agricultural production of the achievements of scientific-technical progress, the scientific organization of labor, the mechanization of the basic agricultural operations in vegetable and animal husbandry, and the use of technology; a number of reports with the use of groupings, which undoubtedly will increase the opportunities for analyzing the development of the economic activity of agricultural enterprises. Additional information will be obtained from materials provided by now random studies of the farms for studying the complete mechanization of the growing of the basic agricultural crops; the degree of provision with working machinery for energy-saturated tractors on the farms; the accounting of the sown areas in the public's private plots; and the number of kolkhoz members, subdivided by occupations, payment-rate categories, and systems of payment for labor on the farms.

The plan for statistical operations for supervising the rate of fulfillment of the assignments in the area of capital construction in 1985 stipulates the elaboration of the reports that characterize the building of the country's production potential -- the activation of new production capacities and projects, the buildup of capacities at existing enterprises as a result of their technical re-equipping and remodeling, which makes it possible to monitor the rate of fulfillment of the planned assignments for the activation of housing, projects intended for social and cultural purposes, the reports for projects scheduled for activation in 1985 which are of primary state importance, as well as projects that are scheduled for activation in 1986.

It is planned to carry out a number of additional measures that evolve, for state statistics agencies, from the 29 April 1984 decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Improving the Planning, Organization, and Administration of Capital Construction." The task consists in being able, with the use of statistical reports, to carry out constant supervision and elaboration of the complete set of data that is necessary for improving the planning of capital construction and administering that branch, for studying the effectiveness of capital investments at all levels of the national economy, and for improving the placement of our country's productive forces.

The existing current and annual reports, supplemented by certain indicators and elaborated in groupings in accordance with a number of economic features, in essence answers many of the questions that have been posed. At the same time, scheduled additional reports will be elaborated on the basis of the forms already being used, in order to supervise the fulfillment of the plan for activation of the most important production capacities and the use of the financial limit for capital investments, and the number of activated



projects that have been stipulated by the State Plan for the Economic and Social Development of the USSR.

There has been an expansion of the statistical supervision of the rate of capital construction for the ministries that are participating in the economic experiment, for purposes of improving the economic mechanism.

In the plan one cannot fail to note the projects pertaining to the further development of the elaborations of the reports, the data from which indicate the branch and territorial structure of capital investments, the concentration and specialization of construction production, the effectiveness of the use of the fixed assets in construction, the materials-intensity of the construction-and-installation operations, the observance of the financial limit for material expenditures, the work of the exploratory-design organizations, the application of design-estimate documentation for the construction of projects intended for production purposes, etc., as well as a number of current and annual reports dealing with the contract organizations of construction ministries, which contain indicators of the fulfillment of the planned assignments for labor in construction, individual-output quotas and the establishment of quotas for labor, the operation of brigades working on a cost-accountability basis, etc.

It is assumed that in 1985 the statistical reports dealing with construction will be analyzed more thoroughly thanks to the groupings of the construction organizations on the basis of a number of very important indicators of their activity, as well as the carrying out, for certain enterprises that are under construction or that are in operation, of an accounting of the production areas that are ready for the installation of equipment, and studies of the economic effectiveness of the capital investments at a number of industrial and agricultural enterprises and projects that were activated in 1981; the number of stages and the structure of administration of construction; and the deadlines for construction and the specific capital investments at certain enterprises and projects of industry and agriculture that were activated in 1984.

In 1985 important statistical information will be obtained as a result of a random study of the application in major cities of the flow-type construction of apartment buildings and projects intended for cultural and everyday purposes.

The projects plan for 1985 includes the obtaining of all the necessary materials for evaluating the rate of fulfillment of the assignments for the development of the country's transportation system. The data pertaining to the statistics of transportation characterizes, first of all, the satisfying of the needs of all branches of the national economy for the transporting of freight and for the carrying of passengers. On the basis of the composite reports from the ministries of railroads, the maritime fleet, and civil aviation, as well as the reports of the enterprises and organizations in the systems of river and motor transport, during the course of the year an analysis will be made of the indicators of the fulfillment of the planned assignments for shipments of various types of national-economic freight (especially such types as stone coal, coke, petroleum and petroleum products,

ore, ferrous metals, timber, chemicals and mineral fertilizers, grain, etc.) and carrying of passengers.

The rapid rates of extraction of petroleum and natural gas in the regions of Western Siberia have been among the factors which have caused in recent years the rapid development of pipeline transport. The data provided by the composite reports by the appropriate ministries can be used to analyze the rate of fulfillment of the planned assignments for the pumping and freight-turnover of petroleum and petroleum products and for supplying gas over the systems of the main gas pipelines.

When elaborating the statistical reports for the individual types of transport, a large amount of attention will continue to be devoted to the data concerning the availability and use of the pool of transportation means -- locomotives, freight and passenger railroad cars, trucks, maritime and river ships -- and concerning the introduction in transportation of more productive technology, the scientific organization of labor, the hauling of freight shipments in containers and packeted form, and also concerning the indicators of the effectiveness of the work performed by individual types of transport -- labor productivity and the costs of shipping the freight, the average-daily work load, deadlines for delivery of the freight shipments and their intactness, etc. -- and the indicators of the number of employed workers and employees, the use of work time, and the number of workers included in the brigade form of the organization of labor.

Much of the report data for the corresponding types of transport are elaborated in the statistical breakdown of the railroads, administrative territories, individual ministries, steamship agencies, and basins, economic regions, etc.; this is important for the more thorough analysis of the rate of fulfillment of the State Plan for the Economic and Social Development of the USSR on the territory of the country. In this regard, a balance sheet for the shipment of individual types of freight in and out for 1984 (transport balance sheet) will be prepared for the individual union republics and economic regions in the country.

The plan stipulates the elaboration of the composite reports, which indicate the rate of fulfillment of the assignments for such a branch of the national economy as communication, the production costs for its output, and the use of the fixed production assets.

Under conditions of the resolution of the major tasks of scientific-technical progress and the intensification of production, greater and greater importance is attached to the statistics of material-technical supply and censuses, the data of which statistics characterizes the process of the distribution in the national economy of the means of production among their consumers -- ministries, departments, etc. -- for purposes of guaranteeing the fulfillment by those consumers of the assignments in the State Plan for the Economic and Social Development of the USSR. The data in the reports of specialized "soyuzglavbyts" of USSR Gosstnab and certain ministries makes it possible to carry out time-responsive supervision of the rate of delivery of ferrous and nonferrous metals, metal articles and steel pipes, coal, petroleum products, gas, building materials, cable articles, machinery and equipment, and a number

of other very important types of output to its basic consumers -- ministries, departments, enterprises, and organizations that are subordinate to the Councils of Ministers of the union republics, etc. For the economic analysis of the deliveries, it is extremely important to have data from the semiannual and annual report balance sheets for the basic types of industrial output that are prepared for the national economy and that characterize all the resources of these types of output by the various sources for their receipt and their specific distribution.

The state statistics agencies constantly monitor the indicators of the reserves of material resources and finished output, and their use in the branches of the national economy. Especially responsible tasks are being resolved by them in the light of the 30 June 1981 decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "The Intensification of the Work of Economizing and Making the Efficient Use of Raw-Material, Fuel-and-Energy, and Other Material Resources." Statistical monitoring of the rate of fulfillment of the socialist pledges taken by the collectives for economizing material resources has been organized by the individual union and autonomous republics, krais, oblasts, ministries, and departments. The plan contains the further development of the question of statistical supervision of the involvement in national-economic turnover of secondary raw materials, secondary fuel-and-energy resources, and the concomitant economizing in the production of primary raw and other materials, and the question of improving the balance between the production of output and the material resources.

The statistical agencies periodically collect additional information concerning questions of material-technical supply in the national economy. In 1985 there will be an elaboration of the results of the census of a number of materials and equipment in the possession of the consumers, and other censuses that have been carried out as of the beginning of the year. And, finally, the plan provides for the elaboration of the report fuel-and-energy balance sheet for 1984, the data of which will make it possible to characterize the structure of the extraction of the fuel-and-energy resources, their overall turnover for the country as a whole and for the country's individual regions, the use of various types of fuel and energy when producing industrial output, the effectiveness of the work of certain groups of energy-forming, fuel-extracting, and fuel-processing enterprises, and the structure of consumption of the fuel-and-energy resources for a number of ministries and departments. The materials in the fuel-and-energy balance sheets play an important role in resolving the problems of the country's Energy Program.

There will be an improvement in the annual and current statistical reports concerning the indicators of the natural resources and the environment, which reports are to be elaborated by the individual union republics, ministries, and associations and which guarantee the monitoring of the fulfillment of the volume of geological prospecting operations on the basis of their estimated cost, as well as the production costs, the labor plan, the fulfillment of the operations pertaining to the deep prospecting drilling of wells for petroleum and gas; there will be a continuation of the elaboration of the reports concerning the extraction of mineral resources during the regular extraction process, and concerning the indicators of the protection of the environment and the efficient use of the natural resources. A number of reports contain



important information concerning operations to protect the forests, concerning the countries preserves and natural (national) parks, the reproduction of fish reserves, the construction of projects to protect the water supply and to stop the dumping of contaminated runoff water into the country's basic water basins, and the protection of the atmospheric air. In 1985 the statistical agencies are planning new elaborations of the reports that characterize the carrying out of measures to reduce the discharge of harmful substances in cities with an increased level of pollution of the atmospheric air and to introduce improved systems of water use and the purification of runoff water, with the extraction from them and salvaging of valuable products and substances, etc.

A large amount of importance in the plan is given to projects involving the statistics of finance and prices. While continuing to elaborate the composite reports of the central financial and credit agencies of the country concerning the execution of the USSR State Budget with regard to the basic items of its income and expenses, credit and settlement operations, etc., and the elaboration and reduction of the current accounting and statistical reports of the ministries and departments, the statistical agencies will devote special attention to developing projects linked with an analysis of the results of the financial activity of those ministries and departments whose associations and enterprises are working under conditions of the economic experiment.

It is planned to elaborate the materials concerning the reserves of uninstalled equipment in capital construction and the above-norm balances of commodity and material assets in the branches of the national economy. Important projects will be carried out in connection with the final computations of the volumes of payments and benefits received by the public from the social consumption funds in 1984.

The plan for statistical projects in 1985 provides for the complete supervision of the rate of implementation of the social program, the raising of the material standard of living, the development of the socialist way of life, the reproduction of the population and the computations of its long-term size for the country as a whole and for the individual union republics and economic regions of the RSFSR, as well as the computations of the age and sex composition of the population and the size of the agricultural and nonagricultural population and the population of able-bodied age in the territorial breakdown as of 1 January 1985, etc.

While summarizing the data in the appropriate reports dealing with the statistics of labor and wages by the individual branches of the national economy, the statistical agencies simultaneously elaborate a certain amount of important report information concerning the rate of fulfillment of the assignments according to the state plan for the size (limit) of workers and employees and the wage fund for the ministries and departments, union and autonomous republics, krais, oblasts, economic regions, etc. One of the most important projects in the plan for 1985 is the preparation of a balance sheet for labor resources on the average for 1984 in the administrative-territorial breakdown, by branches of the national economy and social groups of the population, the data of which indicates the availability and use of the labor resources, as well reserves of them. The materials in the balance-sheet

computations play an important role in resolving the questions of the complete employment rate of the population, the most efficient distribution of the labor resources in accordance with the immediate tasks in the development of the economy of the country as a whole, and its regions and branches of the national economy, and the training of skilled cadres. In connection with the resolution of the questions concerning labor resources, use will be made of the data from the reports being elaborated, which deal with the job opportunities provided to the public, the hiring and release of manpower, and the training of cadres in the system of the USSR State Committee for Vocational and Technical Education, and the raising of the proficiency level of the cadres at their place of work.

In order to evaluate the rate of fulfillment of the planned assignments with regard to questions of labor, registrations and computations will be carried out in 1985 to determine the number of specialists with higher and secondary education in the national economy; workers subdivided according to occupations, wage-rate categories, and systems of payment of labor in a number of branches of the national economy; workers employed in mechanized and manual labor, and workers whose labor is subject to first-priority mechanization; the results of the work of the enterprises and organizations in freeing the number of personnel as a result of the combining of occupations (duties), the expansion of the maintenance zones, etc. The materials provided by these computations, as well as those pertaining to the experiment in improving the payment of the labor performed by the workers at design and technological organizations, will be of great importance for improving the administration of the national economy.

The trade statistics operations that are represented in the 1985 plan include the constant supervision of the rate of fulfillment of the assignments to supply the population with consumer goods through state and cooperative trade (shipments of those commodities to the trade system and their sale to the population, the data concerning which shipments is elaborated in the territorial breakdown). A large amount of attention will be devoted to elaborating the reports the data of which indicate the extent to which industry is satisfying the production orders of the trade system for the production of consumer goods, especially those commodities that are in increased demand, the results of the inspection by trade inspectorates of the quality of the commodities, as well as their reserves in retail trade. The data in the state-resources balance sheets to be elaborated for a number of edible and nonedible commodities is very important for analyzing the extent to which the population is provided with them.

There will continue to be an analysis of the indicators in the reports concerning the work of public-nutrition enterprises, the sale of products of agriculture at kolkhoz markets, and a study of the change in the prices of commodities in various trade sectors. The reports make it possible to analyze questions of the development of the network of trade and public-nutrition enterprises, the results of their economic activity, the mechanization of operations, and the introduction of the scientific organization of labor, the data concerning the number of workers who are included in the brigade form of the organization of labor, etc.



Taking into consideration the vital importance of the problems, it is planned to collect additional information concerning the availability of unpopular and old nonedible commodities in retail and wholesale trade; to organize a survey among the customers in order to study their opinion about the consumer qualities of a number of commodities; and to carry out a study of the organization of the services provided to workers at their place of work, with the simultaneous study of their opinion of the quality of those services.

The work plan involving the statistics of the personal services provided to the public and the housing-and-municipal management stipulates not only the throwing of light on the rate of fulfillment of the planned assignments in that area, but also the additional elaboration of the current reports for the purpose of analyzing the results of the economic experiment in improving economic independence, which experiment is being expanded starting on 1 January 1985, and of intensifying the self-interestedness of the production associations (collectives) of the ministries providing personal services to the public in the union republic, with regard to the more complete satisfying of the public's needs for services.

In 1985 there will be continued elaboration of the reports on the operation of the housing fund, the fulfillment of the assignments for repairing it, and the operation of urban transport; there will be studies of the deadlines and quality of the capital repair of the state housing fund and the fund belonging to the kolkhozes, etc.

Among the projects in the 1985 plan, ones that are distinguished by their social significance are the statistical elaborations pertaining to public health and social security, studies and analysis of the carrying out of the assignments for the further improvement of public health, the increase in the mass nature of physical culture and sport, and the fulfillment of the decisions of the 26th CPSU Congress for improving the pension security provided to the public. In order to study these questions, use will be made of the data not only in the traditional current and annual reports, but also in random elaborations of the materials and studies in the course of the year in accordance with special programs.

The chief task of the plan for projects involving the statistics of culture is the implementation of the measures of USSR TsSU that are linked with the carrying out of the Basic Directions in the Reform of the General Educational and Vocational School System. In this regard there will be an elaboration of the reports whose data will indicate the number of specialists who have been trained at higher and secondary special educational institutions and general educational schools, and the development of the network of preschool and nonschool children's institutions. There will continue to be a considerable volume of projects involving statistical reports pertaining to the activity of scientific and cultural-educational institutions and to the training of the appropriate cadres. A number of additional elaborations of the reports will be carried out and random studies and accountings will be carried out for the

purpose of obtaining statistical information concerning questions of the development of public education and culture.

When considering the plan for statistical projects involving the social questions, it is especially necessary to emphasize what great opportunities are offered for the development and deepening of the analysis on the basis of the economic-statistical materials obtained as a result of the random sociodemographic study that was carried out as of 1 January 1985.

New practical tasks have been assigned to the statistics of foreign countries as a result of the decisions of the Economic Summit Conference of the CEMA Member Countries that was held in Moscow in June 1984. It is necessary to have materials that reveal the position of the USSR and the CEMA member countries in the world economy, the development of the socialist economic integration of those countries, and the rate of the economic competition between the socialist and capitalist systems.

Complicated and very responsible tasks will have to be resolved in 1985 in the area of the national-economic balance sheet. On the basis of various kinds of data pertaining to branch statistics and special computations, there will be an analysis of the most common results of the fulfillment of the indicators of the State Plan for the Economic and Social Development of the USSR for 1984, the 1985 plan, and the five-year plan as a whole. These are the indicators in the balance sheets for production, consumption, and the accumulation of the social product; the production, distribution, and use of the country's national income, the fixed assets of the national economy, etc. There will be an elaboration of the interbranch reporting balance sheet for production and distribution of output.

In the balance-sheet operations, a large amount of attention is being directed to the analysis of a number of very important indicators of the standard of living of the population as a whole and of its social groups (real income, total volume of consumption by the public of the material blessings and services, the consumption of foodstuffs and nonedible commodities). A significant place in the plan is occupied by the preparation of balance sheets for the public's monetary income and expenses.

In 1985 the elaboration of the materials pertaining to the study of the income of more than 300,000 families of workers, employees, and kolkhoz members will be completed. The data pertaining to the family groupings according to certain basic socioeconomic features, primarily the level of the average per-capita income, that has been obtained as a result of these studies is, in essence, the only material for characterizing the personal consumption of the family members depending upon their income and composition. This data is widely used by statistical agencies when studying the tendencies and regularities in the change in consumption, when studying the public's effective demand, and when carrying out various computations and studies in this area.

The effective fulfillment of all the statistical projects stipulated in the 1985 plan will depend upon the prompt resolution of the vitally important problems of scientific methodology. If one may speak succinctly, these

problems are, for the most part, linked with the further improvement of the system of statistical indicators and the methods for computing them in conformity with the new tasks of planning the country's social and economic development and with the monitoring of the fulfillment of the plans, the carrying out of economic experiments, the simplification and reduction of the reports, and the elaboration of the questions of program methodology with regard to new accountings, random studies, and censuses.

It is planned to develop new methodologies and improve the existing ones for increasing the scientific substantiation of the research on the questions of accelerating the scientific-technical progress in the branches of the national economy, the development of the country's agroindustrial complex, the carrying out of the Long-Term Land-Reclamation Progress, the Food Program, the Energy Program, and other national-economic programs for the development of the economy, the complete analysis of the processes of expanded socialist production, the effective use of the country's labor and material resources, and the statistical study and economic analysis of the material and cultural standards of living of the nation and the socialist way of life.

The development of statistical methodology will also continue in conformity with the plan of the CEMA Permanent Commission on Cooperation in the Field of Statistics. A large amount of importance will be attached to projects involving the preparation of a standardized methodology for the statistical study of the economic effectiveness of social production and the analysis of the factors that influence its change; the elaboration of the system and methodology of the indicators of the statistical study of the development of the agroindustrial complex at the national-economic level of the CEMA member countries.

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INVESTMENT, PRICES, BUDGET AND FINANCE

RSFSR FINANCE MINISTER REVIEWS 1985 PLAN TARGETS

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[Article by RSFSR Minister of Finance A. A. Bobrovnikov: "The Economics and Finances of the RSFSR in the Final Year of the Five-Year Plan and the Tasks of the Financial Agencies"]

[Text] In the decisions of the 26th CPSU Congress it was emphasized that during the 1980's the Communist Party will consistently continue to carry out its economic strategy, the highest goal of which is the steady rise in the material and cultural level in the life of the nation, and the creation of better conditions for the complete development of the individual on the basis of the further increase in the effectiveness of social production, the increase in labor productivity, and the increase in the social and labor participation of Soviet citizens.

Decisions of the October 1984 Plenum of the CPSU Central Committee and of the 2nd Session of the USSR Supreme Soviet, 11th Convocation, and the instructions and conclusions of General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet, Comrade K. U. Chernenko are imbued with concern for the further rise in the economy, the steady raising of the material and cultural level of the life of Soviet citizens, and the reinforcement of our Motherland's defensive might.

The Russian Federation, like the rest of the country as a whole, has confidently entered the final year of the 11th Five-Year Plan. During the period that has elapsed, as a result of the large amount of organizational and political work that was carried out by the party, Soviet, and economic agencies in implementing the decisions of the 26th party congress and the subsequent Plenums of the CPSU Central Committee, the dynamic development of the economy and the rise in the national standard of living have been assured.

The fourth year of the 11th Five-Year Plan was completed in a situation of high political and labor upsurge and the broadly extended socialist competition among the labor collectives for the preterm fulfillment of the planned assignments and the worthy meeting of the 40th anniversary of Victory in the Great Patriotic War and the 50th anniversary of the Stakhanovite movement. The party's summons to assure the above-plan increase in labor.



productivity and the additional reduction of production costs found support everywhere.

The assignments for the sale of output in industry subordinate to the RSFSR, during the first 10 months of 1984, were overfulfilled by 1.6 billion rubles; the labor productivity increased by 3.1 percent; and the entire increase in output was achieved without any increase in the number of workers. State capital investments were used to activate 3 percent more fixed assets than in 1983. Definite results were achieved in implementing the Food Program: there was an increase in the state purchases of livestock and poultry, milk, eggs, and wool, and work to carry out the social reorganization of the rural areas is being carried out actively.

There was successful development of other branches in our republic's national economy. There was an increase in the retail commodity turnover in state and cooperative trade, the volume of personal services rendered to the public, the social consumption funds, and the real income per capita of population. The wages of workers and employees and the income of kolkhoz members increased.

Considering the fulfillment of the plan for the economic and social development and the State Budget of the RSFSR during the past year, the RSFSR Council of Ministers noted that, in addition to the successes in the development of the economy, there are still a large number of omissions and unused reserved, and it required the ministries and departments, the governments of the autonomous republic, and the executive committees of the local Soviets of People's Deputies to take immediate and effective steps to eliminate the shortcomings and to bring about a further improvement in the work of their subordinate associations and enterprises. As Comrade K. U. Chernenko emphasized, the positive shifts in the economy must not only be consolidated, but also multiplied. Those are the goals to which the plan and budget of the final year of the 11th Five-Year Plan are oriented.

The growth rates for the majority of the most important indicators have been planned to be higher than those in the previous period of the five-year plan. It is planned to increase the republic's national income by 4 percent in 1985. This corresponds to the average annual rates of the five-year plan. Its entire increase will be obtained by increasing the productivity of social labor and, basically, has been directed toward the further rise in the national standard of living. The volume of industrial production is supposed to increase by 3.8 percent and to exceed the average annual rates of increase in 1981-1984. Provision has been made for the accelerated activation of fixed assets as compared with an increase in capital investments. The increase in the productivity of social labor will guarantee a conventional saving of labor of more than 2 million persons and there will be an improvement in the ratio between the increase in labor productivity and the average wages.

It is planned to produce electrical energy on the level of the goals that were set for the end of the five-year plan -- 960 billion kilowatt-hours. Energy-producing units with a capacity of one million kilowatts each will be activated at the Kurskaya, Balakovskaya, and Smolenskaya nuclear electric-power stations. The production of petroleum, including gas condensate, will reach 575.5 million tons, which is 5 million tons more than the assignments



for the five-year plan. It is planned to increase gas production by 9.7 percent and to increase it to 450 billion cubic meters, which corresponds to the assignments. The basic increase, as in past years, will be achieved in Western Siberia.

The further development of the coal, metallurgical, timber, woodworking, and woodpulp-and-paper industries is planned. The production of output by enterprises in the industry subordinate to the RSFSR Council of Ministers will increase by 3.3 billion rubles. It is planned to achieve a steady development also in other branches, particularly the services sphere (personal services, housing and municipal services, trade, transportation and other services), the expansion of the network of social and cultural institutions, and the raising of the level of their work, their efficiency, and the quality of the services rendered to the public.

All this will make it possible to achieve success in the resolution of the chief economic task -- the raising of the material and cultural level of the nation's life. The real income per capita of population is planned to increase by 3.6 percent. The average monthly wages of the workers and employees are supposed to rise to 200 rubles. In 1985, on the territory of our republic, more than 62 million square meters of total area of housing will be activated; this will provide the opportunity to improve the housing conditions for approximately 6 million persons.

The 10th Session of the RSFSR Supreme Soviet, 10th Convocation, approved the RSFSR State Budget for 1985 for income and expenses in the amount of 96.6 billion rubles, with an increase of 3.8 percent in comparable terms.

The bulk of the income is the funds of state and cooperative enterprises, which constitutes more than 86 billion rubles (almost 90 percent of the total sum). Mandatory and voluntary payments of the public account for 10.1 billion rubles. Proceeds from the turnover tax are planned in the amount of 64.2 billion rubles, of which 39.9 billion rubles will be transferred to income of the RSFSR budget.

On the basis of the planned measures for the further intensification of the economy, the profit in the branches of the national economy will increase, as compared with the previous year, by 11.6 percent, and will reach 35.1 billion rubles. Almost half the profit will remain at the disposition of the enterprises and economic organizations for the further reinforcement of their production base and the formation of economic-incentive funds. The budget will receive 18 billion rubles.

In order to fulfill these strenuous but completely feasible planned assignments for profit and payments to the budget, the RSFSR Council of Ministers has required the ministries and departments, the governments of the autonomous republics, and the executive committees of the local Soviets of People's Deputies to carry out serious measures that are aimed at locating and mobilizing reserves for increasing the effectiveness and quality of the work, and at assuring that every enterprise fulfills and overfulfills the plans for production and sale of output, deliveries based on contracts, the increase in

labor productivity, profit, and the sharp reduction of the losses associated with individual articles, operations, and services.

The fulfillment of these tasks will largely depend upon the complete improvement of the system of administering the national economy, and the successful search for and application of the methods of managing the economy which correspond to the present-day requirements. A considerable place is assigned to improving the economic mechanism, to improving the planning and pricing, and also to raising the level of the economic and control work in all links of administrations, and the active formation of a new type of economic thought processes.

An effective lever for improving the economic mechanism is the introduction of the economic experiment in the branches of the national economy. In 1985, on the territory of the RSFSR, in addition to the enterprises of Mintyazhmash [Ministry of Heavy Machine Building] and Minelektrotekhprom [Ministry of the Electrical-Engineering Industry] and eight local administrations of personal services for the public, the organizations that will operate under the new conditions will be five more union ministries, more than 230 associations and enterprises of Minmestprom [Ministry of Local Industry], all the enterprises of Minrybkhhoz [Ministry of the Fish Industry], the organizations of RSFSR Minbyt [Ministry of Consumer Services, in 23 autonomous republics, krays, and oblasts.

In execution of the requirements of the RSFSR Council of Ministers concerning the increase in the effectiveness of the application of all the economic levers and incentives for the economic mechanism, the financial and bank agencies, and agencies of state statistics and pricing in the republic will have to tighten up their supervision of the earmarked and efficient use of state funds, and will have to intensify the planned and finance-credit influence upon the achievement of high final results in the branches. The measures to be carried out by the financial agencies -- the analysis and consideration of reports, inspections and audits, and the economically substantiated recommendations that are prepared on the basis of their results -- must be aimed at this goal. The entire series of practical measures for the further improvement of the economic and control work of the republic's financial agencies has been stipulated by a decree that was issued on the basis of the results of a comprehensive inspection that was conducted by USSR Minfin [Ministry of Finance] in December 1984.

As has been indicated by practical experience, the reserves for the accelerated development of the economy in a number of branches are not yet being completely used. A large number of enterprises have not been fulfilling the plans for production or profit, or the assignments for the economizing of material and fuel-and-energy resources and for reducing the production costs and the costs of operations and services, and have been having losses as a result of poor business practices. This pertains primarily to the enterprises in the ministries of light, textile, and meat-and-dairy industries, the

building-materials industry, the fruit and vegetable industry, and rural construction.

Enterprises and associations that have not been coping with the fulfillment of the contractual obligations pertaining to shipments, which are one of the chief indicators for evaluating their activity, are those subordinate to RSFSR Mintekstil'prom [Ministry of the Textile Industry], Minmestprom [Ministry of Local Industry], Minstroyaterialov [Ministry of Building Materials], and Minlegprom [Ministry of Light Industry]. This has been leading to a violation of the principles of the planned running of the management, to a disruption in the working rhythm of the enterprises, the formation of above-norm reserves of commodity-material assets, and the delaying of the turnaround rate of working assets, and also has other negative economic and social consequences. In a number of instances there has been a failure to implement the opportunities for increasing the production of output, for increasing the profitability, for reducing the loss rate in production, and for increasing the accumulations in the economy and the income paid into the budget as a result of the better use of the existing production capacities and the newly activated ones, and the further improvement of the organization of production and labor.

In the republic's plan and budget for 1985, primary importance is attached to the intensive factors in the increase of production. The factor which is the decisive one is the consistent increase in labor productivity. At the present time it is important to reinforce and consolidate the positive shifts that have been noted in this regard. The financial agencies are obliged to attach primary importance to the extent of effectiveness with which the branches of the economy mobilize the reserves and opportunities for increasing the labor productivity, for reducing the application of manual labor, for mechanizing and automating the production processes, for reducing the losses of work time, and for reinforcing labor and executive discipline.

The further raising of the level of the development of the economy, as planned by the party's 26th congress, is based primarily on modern science and technology. The republic's scientific potential is great. Our scientific institutions employ 224,000 persons, including more than 100,000 doctors and candidates of sciences. In 1985 the scientific institutions, ministries, and departments will take part in the fulfillment of 140 union-wide scientific-technical programs.

A large volume of scientific-research and experimental-design projects will have to be fulfilled with regard to questions of the technical re-equipping of the textile, light, food, and local industry, and the complete mechanization of subsidiary operations in the peat industry.

Scientists at the Siberian Branch of the USSR Academy of Sciences are executing a large program of research dealing with the development of energy-saving measures and with the creation of technological processes for the salvaging of industrial and everyday waste products. Large-scale tasks, which are of fundamental importance in the development of this region's productive forces, will have to be resolved within the framework of the Sibir' [Siberia] Program.



At the same time one must not fail to note the shortcomings in the organization of the scientific-research projects and in the introduction of the achievements of science and technology into production. RSFSR Minfin [Ministry of Finance] and its local agencies, together with the planning organizations, the institutions of banks, and the people's control agencies, have been called upon to control the effectiveness of the use of the funds being vchanneled into the further development of science, paying special attention to the concentration of the material, labor, and financial resources on the development of the most important and most large-scale problems, and to the accelerated introduction into production of the scientific developments that guarantee the achievement of high final results in the national economy.

The 1985 plan and budget reflect the views of the party and government concerning the intensification of the system of measures for economizing the material, fuel-and-energy, labor, and financial resources. A definite amount of work is being done in this direction, but at individual enterprises and associations one observes substantial shortcomings in its organization; the assignments for the economizing of the material and fuel-and-energy resources are not being fulfilled. There is still a large number of such enterprises in the ministries of the textile, light, meat-and-dairy, and fruit-and-vegetable industries.

Little supervision is being carried out on the expenditure of raw and other materials at certain enterprises of Minlegprom and Ministroymaterialov. The Gorkiy Leather-Articles Production Asssocation, during the first nine months of 1984, overexpended more than 500 tons of hides, and 19 percent of the enterprises in Ministroymaterialov used 105,000 tons of standard fuel in excess of the norms.

The assignment for the economizing of electrical energy is not being fulfilled by many enterprises and organizations in Minzhilkomkhoz [Ministry of Housing and Municipal Services], Minsel'khoz [Ministry of Agriculture], Ministroymaterialov, Minsel'stoy [Ministry of Rural Construction], and Minplodoovoshchekhoz [Ministry of the Fruit and Vegetable Industry]. RSFSR Council of Ministers has directed attention to the unsatisfactory fulfillment of the assignments for the economizing of fuel-and-energy and other material resources in Stavropol Kray, and in Komi and Chechen-Ingush ASSR.

In the light of the instructions and conclusions contained in the statement by Comrade K. U. Chernenko at the session of the Politburo of the CPSU Central Committee, RSFSR Council of Ministers has obliged the ministries and departments, the governments of the autonomous republics, and the executive committees of the kray and oblast Soviets of People's Deputies to take decisive steps to assure the strict observance of measures to economize all types of material resources, and, on that basis, to guarantee the operation of their subordinate enterprises and organizations for two days each year by using the economized raw and other materials and economized fuel. It is necessary for everyone to use the existing forms for providing material incentives for economizing and the sanctions for the overexpenditure of the material resources. Those questions must be constantly under the scrutiny of the financial agencies.

It must be noted that many of the commodities being produced have an increased demand among the public. Articles, for example, that are popular with the customers are those with the trade mark of the Bol'shevichka and Zarya associations and the Mikromashina Plant, all of which are in Moscow; the Leningrad Porcelain Plant imeni M. V. Lomonosov; the Cheboksary Knit Stocking Factory; the Dmitrovskiy Yunost' Association in the Moscow area; and other enterprises.

However, the rather large reserves that our republic's economy has for increasing the production of commodities for the people are by no means being used completely. For example, during the current year Mintekstil'prom failed to fulfill the plan for the production of linen, silk, and cotton fabrics, and outer knitwear; Minlegprom, production of leather commodities and leather footwear, and garments; Minpishcheprom [Ministry of the Food Industry], production of beer and soft drinks; and Minplodoovoshchkhov, the plan for the production of canned fruits and vegetables. There was failure to guarantee the plan for the production of consumer goods in Udmurt Assr, Maritime Kray, and Astrakhan, Volgograd, Kalinin, Kemerovo, Kurgan, Omsk, and Orenburg oblasts. The enterprises in a number of union ministries have not been engaging actively in these matters.

The quality of individual commodities fails to conform to present-day requirements. Inspections by people's control agencies, Gostorginspektsiya [Main Administration of State Inspection for Quality of Commodities and Trade], and Gosstandart [State Committee for Standards] established that many knitted article, judged on the basis of quality, styles, and finish, fail to conform completely to the customers' increased demands. The low quality of articles was also established during inspections of a number of enterprises subordinate to RSFSR Ministroymaterialov.

Because of the incomplete fulfillment of the plan for production of consumer goods in the assigned volume and variety, individual branches of industry in 1984 underpaid into the budget 492 million rubles of turnover tax.

It is necessary for the financial agencies to intensify the supervision over the financial-management activities of the enterprises that have been mentioned, primarily those of Minpishcheprom, Mintekstil'prom, Minlegprom, Minmestprom, and Ministroymaterialov, for the carrying out of the measures aimed at expanding the production, renewing the variety, and improving the quality of the commodities being produced for the public, and for the unconditional fulfillment of the plans for their production and sale.

The 1985 state budget for the RSFSR stipulates, for the financing of the national economy, 51.5 billion rubles, and, with the consideration of the enterprises' own funds, more than 88 billion rubles. Great importance is attached to the practical measures that are linked with the further upsurge of the branches of industry in Group B, which produce consumer goods. The development of the textile, light, local, food, meat-and-dairy, and fishing industries has been allocated 13.4 billion rubles. The financial agencies must establish rigid supervision to see that that money is used in a thrifty manner, with the greatest return.



In the republic a large amount of attention is devoted to questions of the further intensification of agricultural production and land reclamation. In conformity with the decisions of the May 1982 and October 1984 Plenums of the CPSU Central Committee, a total of 46.4 billion rubles is being allocated for the implementation of the Food Program and the development of land reclamation and the entire agroindustrial complex in our republic in 1985. That figure includes 27.4 billion rubles from the budget. It is planned to channel 35.8 billion rubles into the development of agriculture, which is the leading link in the agroindustrial complex.

There will be a continuation of the course aimed at the carrying out of the comprehensive development of agriculture and the branches connected with it in the Nonchernozem Zone, the Central Chernozem Region, Siberia, and the Far East. It is planned to guarantee the substantial increase in the production of output of vegetable husbandry on reclaimed land.

During the past two years our republic's agricultural workers, relying upon the assistance rendered by the government, and despite the unfavorable weather conditions, achieved success in the development of vegetable and animal husbandry. There was a reduction in the number of farms operating at a loss, and an increase in the profitability of production. However, on many kolkhozes and sovkhozes the return on the invested funds is still insufficiently high, and frequently the expenditures for the production of output on the fields and at the animal farms are growing more rapidly than the income from the sale of those products.

At the All-Union Economic Conference on Problems of the Agroindustrial Complex, Comrade K. U. Chernenko remarked that today we are confronted by the task of accelerating the changeover of agriculture to the intensive method of development and of considerably increasing the return from the potential that has been created on the kolkhozes and sovkhozes. That requires new approaches, the improvement of the activity of the agroindustrial associations, and the broad use of economic levers.

The financial agencies must carry out rigid supervision of the financial activity of the sovkhozes and kolkhozes, the interfarm organizations, and the organizations in the ministries of the fruit and vegetable industry, the timber industry, procurements, land reclamation, and water management, Goskomsel'khoshtekhnika, and Gosssel'khoskhimiya, to assure the effective use of the available material-technical base and the considerable funds being newly channeled into those organizations by the state.

Large and responsible tasks confront the ministries and departments, the Councils of Ministers of the autonomous republics, and the executive committees of the local Soviets of People's Deputies in increasing the effectiveness of capital investments in the light of the decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Improving the Planning, Organization, and Administration of Capital Construction." The fundamental improvement of the situation in this important sector of the national economy will largely determine the planned conversion of the republic's economy to conditions of intensive development. In 1985 it is planned to channel 14 billion rubles from the budget into the financing of

capital investments. The rest of the expenditures for those purposes will be covered by the farms' own funds and by bank credit.

The institutions of the banks, jointly with the financial agencies, will have to carry out constant supervision of the effective use of capital investments, and the improvement of the financial-economic indicators in the organizations of RSFSR Minsel'stroy and Minzhilgrazhdanstroy [Ministry of Housing and Civil Construction], Roskolkhozstroy [RSFSR Kolkhoz Construction], and the construction-installation and repair-and-construction organizations of the republic's other ministries and departments. It will also be necessary to direct attention to the concentration of forces and funds on the construction projects scheduled for activation in the next report period, the reduction in the number of projects simultaneously under construction, the reduction of the amount of uncompleted construction, and the stable guaranteeing of the activation of projects intended for industrial, agricultural, and housing-and-civil purposes.

A task of great importance is the successful carrying out the planned program for the development of the services sphere. In the constant concern for people, in the creation of the proper conditions for their everyday life, the party sees the serious basis of the production successes. In 1985, 9.3 billion rubles is being allocated for the development of enterprises and organizations in the housing and municipal management, and enterprises and organizations providing everyday services to the public, and communication.

The further growth in the volumes of services rendered by enterprises of the ministries of consumer services, housing and municipal services, and communication requires the substantial raising of the level of organization of the work performed by the services system, the acceleration of the introduction of progressive forms, and the improvement of the efficiency and quality of services rendered to the public. Much can and must be done in expanding and improving the services sphere by the industrial and other enterprises and organizations of the union and republic ministries and departments.

The questions of raising the level of activity of the organizations rendering services to the public must be under the constant supervision of the financial agencies. It is necessary to keep strict watch to assure that the funds being allocated for the development of the housing and municipal manager, the everyday services provided to the public, and the communication organizations are being used with the greatest return, and it is also necessary to stop all instances of their expenditure for non-earmarked or illegal purposes.

One of the key branches in the national economy is transportation. Almost 4 billion rubles is being channeled into the development of motor transport and the river fleet in 1985. RSFSR Council of Ministers has repeatedly directed the attention of RSFSR Minavtotrans [Ministry of Motor Transport] and Minrechflot [Ministry of the River Fleet], and the other ministries and departments having means of transportation, to the need for the maximum mobilization of the internal reserves for increasing the volumes of shipments and the more complete satisfying of the needs for those shipments by the national economy and the public.

However, RSFSR Minavtotrans and Minrechflot have failed to assure the fulfillment of the freight-turnover plans. There continues to be an underfulfillment of the assignments for the productivity of the work performed by the motor vehicles and ships, there has been no improvement in the use of the rolling stock, and there continue to be considerable periods of rolling-stock idle time and a considerable number of empty runs. Inspections have revealed numerous instances of padding the volumes of freight shipments, as well as numerous instances of losses of fuels and lubricants. Despite the steps being taken, passenger transport is still operating unsatisfactorily. This has been the reason for many complaints on the part of the public. The completeness of the collection and intactness of the monetary proceeds is not being guaranteed.

The financial agencies, when supervising the financial activity of the transportation organizations of the ministries of motor transport, the river fleet, and the housing and municipal services, and the other ministries and departments, must devote primary attention to guaranteeing the unconditional fulfillment of the planned assignments for the volume of shipments of freight, for raising the coefficient of use of the vehicles pool, for increasing the profit and payments to the budget, for the completeness of the collection and intactness of the monetary proceeds, and for the taking of effective steps to eradicate instances of figure-padding and of the overexpenditure of fuels and lubricants. It is necessary to supervise constantly the fulfillment of the decrees of the party and the government concerning the further improvement of the work of transport in providing services to the passengers.

In the Russian Federation in recent years there has been an increase in the network of roads with a hard surface, and there has been somewhat of an improvement in the transportation ties that the central farmsteads of the kolkhozes and sovkhoses have with the rayon centers. In 1985, 3.9 billion rubles is being channeled into the construction and repair of motor highways. That figure includes 880 million rubles from the budget. The financial agencies are obliged to intensify their supervision over the earmarked and effective use of the state funds by the organizations of the Ministry of Highways, and, at such time, to pay special attention to guaranteeing the fulfillment and overfulfillment of the plan for highway construction and to improving the quality of the highway system.

In carrying out the task of the steady raising of the standard of living of Soviet citizens, an important role belongs to trade. In 1985, 4 billion rubles is being channeled into the development of the republic's state and cooperative trade. It must be noted that RSFSR Ministry of Trade and Rospotrebsoyuz in 1984 failed to fulfill the plan for retail commodity turnover, have been doing little to eliminate the unproductive expenditures and losses, have been allowing inferior commodities to show up on the store shelves, and have not been time-responsive in maneuvering the commodity reserves.

For 1985 the retail commodity turnover in state and cooperative trade has been established in the amount of almost 186 billion rubles, with an increase of 5.6 percent. In commodity turnover, an additional assignment in the amount of



3.3 billion rubles is planned. For purposes of fulfilling the strenuous plan, RSFSR Council of Ministers has obliged Mintorg [Ministry of Trade], Rospotrebyuz, the ministries and departments, the Councils of Ministers of the autonomous republics, and the executive committees of the Soviets of People's Deputies to continue the search for additional commodity resources and to introduce new, effective forms of organizing the work of the trade enterprises.

The financial agencies must take under their constant supervision the economic and financial activity of the organizations of the Ministry of Trade, Rospotrebyuz, as well as the trade network of the republic's other ministries and departments, and must direct special attention to guaranteeing the intactness of the commodity-and-material assets and monetary means.

In execution of the decisions of the party's 26th congress, the RSFSR is carrying out work to assure the further development of state insurance. The number of contracts providing personal and property insurance to the citizens has exceeded 104 million. In 1985, in accordance with voluntary-insurance contracts that have been concluded, 5.7 billion rubles will be paid in by the public. There will be an increase in the payment of insurance sums to the public. There has been an increase in the role of state insurance in the reinforcement of the financial situation of agricultural enterprises. State mandatory property insurance will additionally extend to agricultural enterprises of Minpishcheprom, Minmyasomolprom [Ministry of the Meat and Dairy Industry], and RSFSR Goskomvinprom [State Committee for the Viticulture and Winemaking Industry].

There has been a broad extension of the work to fulfill the decree of the USSR Council of Ministers, entitled "Measures for the Further Development of State Insurance and for Improving the Quality of the Work of the Insurance Agencies." RSFSR Minfin [Ministry of Finance] and the local financial agencies have been intensifying the attention to the further development of insurance matters, to improving the activity of the insurance agencies, and to improving the efficiency of the services provided to the public.

In conformity with the planned program for raising the standard of living of the Soviet citizens, 42 billion rubles is being channeled in 1985 from the republic's budget into the development of public education, culture, public health, and social security. The appropriations for education are planned in the amount of 14.8 billion rubles. This will make it possible to guarantee the further development of public education, and the training of skilled personnel for the branches of the national economy. In 1985 an additional 625 million rubles is being allocated from the budget for carrying out measures linked with the reform of the general-educational and vocational school system.

It is generally known that people's health is our chief wealth. Therefore the Soviet state shows constant concern for improving the protection of the workers' health by improving the quality of the medical services and the preventive measures to reduce the disease rate. It is planned to channel 9 billion rubles from the budget into public health.



A large amount of attention in our country is paid to satisfying the needs of the veterans of the war and labor, to the constant development of all types of social security, and to the building of boarding houses. In the republic's state budget, 18.2 billion rubles is planned for the payment of pensions, grants in aid, and other social-security needs. In addition, 1.8 billion rubles is being allocated from the funds in the centralized union-wide social-security fund to pay pensions and grants in aid to kolkhoz members.

The fulfillment of the planned measures for the further improvement of the work of the social and cultural institutions will depend largely upon the prompt activation of the facilities that are under construction -- schools, children's preschool institutions, vocational-technical schools, hospitals, clinics, and boarding houses. Unfortunately, there have been a rather large number of instances when the established deadlines for the activation of these projects have not been observed and their construction has been unjustifiably dragging out. The allocated funds are not always being expended efficiently and economically. Inspections and audits have revealed considerable illegal expenditures at the social and cultural institutions of Krasnoyarsk Kray and Stavropol Kray, and Vologda, Novosibirsk, Rostov, Sverdlovsk, Tyumen, and a number of other oblasts.

The financial agencies must strictly supervise the correctness of the preparation of the estimates of expenditures for the maintenance of the budget-supported institutions and the carrying out of social and cultural measure, and must make increased demands on the organizations and institutions in the system of the ministries of education, higher and secondary special education, public health, culture, and social security, and RSFSR Gosprofobr [State Committee for Vocational and Technical Education] for guaranteeing the earmarked and effective use of the state funds allocated for the resolution of the country's social program. It is necessary to pose in a more acute manner the questions directed at the appropriate agencies concerning the prompt activation of the social and cultural institutions.

The appropriations for maintaining the agencies of state authority, administration, and legal agencies according to the RSFSR State Budget for 1985 are planned in the amount of 954 million rubles, which constitutes less than one percent of the total amount of the budgetary expenses. At the April 1984 Plenum of the CPSU Central Committee, the task of searching for new forms of the activity of the state apparatus and for improving its structure was raised. The most important thing is to achieve the optimal correlation between the number of workers employed in production and in administration, to eliminate the causes for the unjustified increase in the size of the administrative apparatus, and to carry out work to reduce it from top to bottom.

Our republic is carrying out measures aimed at the practical fulfillment of that important task. By carrying out the measures to improve the structure of the administrative agencies and to reduce the number of their workers, in 1985

the saving in the expenditures to maintain the administrative apparatus represents in the budget a total of approximately 200 million rubles.

As can be seen from the report data and materials provided by inspections, a number of branches are continuing to resolve slowly the questions of improving the structure of administration and of improving the organization of the work performed by the administrative apparatus. Violations of discipline with regard to estimates of authorized strength were established in 1984 at enterprises and organizations of Minbyt, Minavtotrans, Minzhilkomkhoz, Minsel'khoz, Goskomsel'khoztekhnika, Mintorg, and Rospotrebsoyuz. A large number of such violations were revealed by RSFSR Minfin during inspections in the Yakut and Mari ASSR, Krasnoyarsk Kray, and Astrakhan, Chelyabinsk, and a number of other oblasts.

The financial agencies and the institutions of USSR Gosbank must carry out the strictest supervision of the efficient use of state funds, and the unconditional fulfillment of the planned measures to improve the structure and reduce the number of workers at the administrative agencies and the expenses to maintain them. In the event that violations are revealed, it is necessary to apply more actively the measures that have been stipulated by the current legislation to eliminate the shortcomings and prevent them in the future.

In the system of measures to raise the level of administration of the national economy, a considerable place is given to improving the organization of accounting, reports, and the intensification of supervision. The financial agencies must intensify their influence upon raising the level of management by the administrative agencies of the accounting at the subordinate enterprises and institutions, as well as upon assuring the prompt and most complete introduction in the branches of progressive forms of accounting, and the guaranteeing of the proper procedure for conducting a stock-taking of material assets and monetary means.

It is necessary to establish effective control over the fulfillment of the plans for converting the enterprises to the normative method for computing expenditures for production and for estimating the production costs, and to render a greater amount of practical assistance in carrying out the preparatory organizational measures. That will increase the role of accounting in guaranteeing the intactness of socialist property and will contribute to the sharp reduction and prevention in the future of unproductive expenditures and losses.

During the period of the 11th Five-Year Plan that has elapsed, there has been a constant increase in the rate of results in the work of the control and audit apparatus of RSFSR Minfin in locating and mobilizing additional income for the budget and in reducing excessive appropriations for the maintenance of budget-supported institutions and the administrative apparatus, and in eliminating instances of malfeasance, the uneconomical expenditure of state funds, and violations of planning, financial, and report discipline at enterprises, organizations, and institutions.

During the first three and a half years of the five-year plan, the KRU [Control and Audit Administration] apparatus located and mobilized additional

budgetary reserves in the amount of 580 million rubles. The best results were achieved by the apparatuses of chief controller-auditors for Altay Kray, Stavropol Kray, Irkutsk, Orenburg, Penza, Perm, Rostov, Saratov, and Sverdlovsk oblasts, and for the cities of Moscow and Leningrad.

At the same time, at the apparatuses of the chief controller-auditors for Mordovian ASSR, and Belgorod, Voronezh, Kostroma, Magadan, Novgorod, Orel, and Tula oblasts, the proper attention is not being directed to the most thorough search for inner reserves for increasing the accumulations in the management and additional payments of income to the budget.

When the question "Measures for the Further Intensification of Supervision Over the Intactness of Socialist Property" was being considered at a meeting of the board of RSFSR Minfin in October 1984, attention was directed to the shortcomings in the work of the apparatuses of the chief controller-auditors for Kabardino-Balkhar ASSR, Khabarovsk Kray, and Kursk Oblast, which was aimed at compensating the state for the material losses that it had incurred.

While giving great importance to the questions of intensifying the supervision by the financial agencies of the activity of the subordinate control and audit services, RSFSR Minfin during the past year carried out a number of inspections and, at a session of the board, listened to oral reports presented by the managers of RSFSR Minmestprom, Minpishcheprom, Minsel'khoz, Minpros, and Goskomnefteprodukt concerning the state of that work. It was recommended to those managers that they eliminate the shortcomings, improve the quality of the audits and the effectiveness of the subsequent control, and show more concern about the selection, training, and refresher training of the audit and accounting personnel.

The instructions and recommendations stated by Comrade K. U. Chernenko at the All-Union Conference of People's Controllers must become a concrete program of action for the people's, state, and public controllers, and for every Soviet citizen. When implementing these instructions, it is important to strive for a situation in which the work of controlling will combine inspection and the prevention and correction of shortcomings. It is necessary to continue the work of systematizing the organization of audits, and to give greater importance to the coordination of the actions of the planning, financial, and bank agencies, and the agencies of the people's control, state statistics, and pricing.

The RSFSR State Budget for 1985 stipulates state budgets for the autonomous republics and local budgets in the amount of 30.8 billion rubles, with an increase of 3.8 percent. For purposes of intensifying the dependence of the size of the income of the local budgets upon the effectiveness of the work performed by the associations, enterprises, and organizations situated on the territory of the corresponding Soviets of People's Deputies, the income of the local budgets in 1985 will receive payments from the profits of the enterprises of republic (RSFSR) subordination in RSFSR Minavtotrans, and the budgets of Bryansk, Voronezh, and Novosibirsk oblasts will receive part of the profits of the enterprises of union subordination, which is obtained chiefly from the sale of consumer goods.



The financial agencies must take active part in the measures being carried out by the local Soviets of People's Deputies to fulfill the government's decrees that pertain to questions of reinforcing the income base of the local budgets, and must constantly direct their attention to their efficient execution.

The decisions of the 26th CPSU Congress specify a series of measures that are aimed at improving the style and methods of management -- the raising of the level of organizational work; the development of initiative and time-responsiveness in the employees in the administrative apparatus; the indoctrination of people in the correct understanding of the future prospects, and a sense of responsibility for the assigned job; the reinforcement of labor and executive discipline; and the improvement of the quality and effectiveness of administrative labor.

Speaking at a session of the Politburo of the CPSU Central Committee, Comrade K. U. Chernenko pointed out the need for the constant improvement of the selection, assignment, and indoctrination of cadres on the basis of Leninist principles. For our republic's financial and insurance agencies, a factor of great importance is the further improvement of the on-the-job and party-political training of the cadres, the creation of an effective cadre reserve, and the increase in the activity rate of the system of training and refresher training of the specialists and managerial workers.

RSFSR Minfin and the local financial and insurance agencies are constantly conducting measures to improve the work style and methods, which measures contribute to a thorough analysis of the planning, reporting, and auditing materials and various other kinds of information, to the well thought-out preparation of documents, recommendations, and the draft versions of decrees and orders, and to the making of well-substantiated decisions and the precise checking of their execution.

An objective necessity is the improvement of the work that the institutions of the financial system do with letters, statements, and complaints from the workers. In this important state matter, manifestations of irresponsibility, bureaucratism, and formalism are inadmissible.

The further improvement of the state of affairs in the financial agencies is achieved by means of the efficient use of the legal means, and this in its turn requires a substantial raising of the level of the legal training of their workers. A thorough knowledge of the legal norms pertaining to financial matters makes it possible to resolve successfully many specific questions that contribute to the reinforcement of state and financial discipline, and to the intactness of socialist property. Therefore it is necessary to take persistent steps to orient the workers at the financial and insurance agencies toward the skillful and effective use of the legislation pertaining to finance management.

One of the important areas in the improvement of the work style and methods of the institutions in the financial system is the automating of financial settlements and insurance operations. At the finance administration of the Gorkiy Executive Committee, for example, an automated system has been set up for accounting, analyzing, and forecasting the proceeds from the turnover tax.



Definite results in the automation of financial settlements have been achieved by the Chuvash ASSR Minfin, the finance administrations of the Krasnodar Kray and Krasnoyarsk Kray executive committees, and the Bryansk and certain other oblast executive committees. A number of administrations in the central apparatus of RSFSR Minfin make active use of electronic computers in their daily practice. However, all the financial agencies are not yet paying the proper attention to the introduction of an automated system for financial settlements (ASFR) that makes it possible to increase significantly the time-responsiveness and quality of processing the economic information.

In the final year of the 11th Five-Year Plan, the republic's financial and insurance agencies have been called upon to carry out a large amount of important work to fulfill and overfulfill the RSFSR State Budget for 1985 and the socialist pledges that have been taken. The workers at the financial and insurance agencies, having joined actively in the socialist competition, will mark the year of the 40th anniversary of the Victory of the Soviet nation in the Great Patriotic War by new, high achievements, and will make an important contribution to the nationwide movement for the worthy meeting of the 27th CPSU Congress.

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INVESTMENT, PRICES, BUDGET AND FINANCE

GOSBANK FUNCTION IN ECONOMIC EXPERIMENT ASSESSED

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[Article by P. D. Subbotin, chief of a department of the Economic Planning Administration of the Gosbank Board: "The Bank and the Economic Experiment"]

[Text] A seminar of specialists of Gosbank [State Bank] institutions in problems of temporary credit relations with production associations and enterprises operating under the conditions of the economic experiment was held at the Board of the Gosbank SSSR from 28 through 30 August 1984. Chiefs of economic planning and sectorial credit administrations of republic offices of the Gosbank and executives and leading economists of 37 oblast offices and of a number of Gosbank departments took part in the seminar.

Opening the seminar, P. Ya. Pchelin, first deputy chairman of the Board of the Gosbank SSSR, noted the exceptionally great importance of the large-scale economic experiment carried out in the country for the further improvement in the entire economic mechanism and increase in the efficiency of public production. He stressed that the entire activity of Gosbank institutions in the area of crediting, financing, organization of settlements of accounts, ruble control and other bank functions should be directed toward the maximum possible promotion of a successful implementation of the big and responsible tasks, which are to be accomplished in the course of the experiment. At the same time, attention was drawn to the need for and the special importance of an all-around organic coordination of this work with the fulfillment of general tasks, of which the task of the further improvement in the organization of monetary circulation is put in the forefront. The accomplishment of this task from the standpoint of development of credit relations in the national economy should be ensured by the strictest observance of credit planning discipline. The nature of credit relations with specific associations and enterprises should fully correspond to the results of their production and financial activity. Measures for an improvement in the structure of credit investments have a big effect on the state of monetary circulation.

Control over the expenditure of wage funds is closely connected with tasks in the area of monetary circulation. The principal attention of bank specialists in the exercise of this control should be directed toward the provision of an outstripping growth of labor productivity by production associations and enterprises as compared with the growth of average wages.

Ensuring, in the process of extension of credit to associations, enterprises and organizations, effective control over the state and efficient utilization of fixed capital is one of the major tasks of Gosbank institutions. Cases of loss by them of their own fixed capital should be considered a violation of cost accounting principles. Measures of bank effect should be applied more decisively to such economic organs. The bank has available an extensive arsenal of temporary credit levers of effect on the results of work of enterprises and organizations, but these levers must be utilized more effectively. When selecting certain measures of bank effect, managers of Gosbank institutions must carefully take into consideration the conditions and characteristics of activity of every enterprise and organization. This largely predetermines the further efficiency of the sanctions applied by the bank and the effectiveness of bank ruble control over the economic and financial activity of associations and enterprises.

Big and complex tasks face Gosbank institutions in connection with the fulfillment of the decisions of the May (1982) Plenum of the CPSU Central Committee in the part of the realization of the USSR Food Program. The temporary credit mechanism should be directed toward the attainment by all sectors forming part of the agroindustrial complex of high end results and, primarily, ensure the full preservation of agricultural products at the stages of their procurement, processing and transportation to consumers.

The above-mentioned tasks in the area of strengthening monetary circulation and improving the extension of credit to the national economy cannot be fulfilled if thorough analytical work is not organized at Gosbank institutions. This work should be of a more purposeful nature, in connection with which it is necessary to expand the practice of thematical analysis of individual, most important aspects of activity of economic bodies. As a rule, economic analysis materials should be accompanied by the development of proposals on the realization of internal economic potentials uncovered by the bank and be submitted to local soviets of people's deputies, as well as to superior economic management organs, for discussion.

The economic work of Gosbank institutions in the area of settlements of accounts should be directed primarily toward strengthening contractual discipline and observing the legality of performance of accounting operations. Special attention should be paid to the control over the marketability of accounting documents and the correct consideration by suppliers of subsequent refusals to accept payment demands during the determination of the volumes of sales of output announced to them on the part of customers. There are frequent cases when individual suppliers, receiving subsequent refusals to accept the shipped products, do not make appropriate corrections in the volumes of sales of output during the period under review, which, essentially, is equivalent to padding. Such cases must be promptly reported to procuracy organs, the Committee of People's Control and soviets of people's deputies for the purpose of adopting the necessary measures for the fight against padding and deception.

The following executives of the Board of the Gosbank SSSR presented reports to the participants in the seminar: M. L. Ingerman, deputy chief of the Economic Planning Administration, "Tasks of Gosbank Institutions Concerning the Organization of the Extension of Credit to and Settlements of Accounts of



Enterprises Participating in the Economic Experiment and Bank Control Over Their Activity;" E. K. Yershova, deputy chief of the Economic Planning Administration, "Extension of Credit for the Payment Turnover of Enterprises Participating in the Economic Experiment;" V. I. Morsin, deputy chief of the Economic Planning Administration, "Extension of Credit for Expenditures Connected With the Implementation of Highly Efficient Measures for the Retooling of Fixed Capital;" M. I. Volkov, chief of the Wage Control Administration, "Work of State Bank Institutions on Control Over the Expenditure of Wage Funds of Enterprises Participating in the Economic Experiment;" V. V. Kholina, chief of the Food Industry Crediting Administration, "Characteristics of the Organization of the Extension of Credit to and Settlements of Accounts of Enterprises of the Ukrainian SSR Ministry of the Food Industry;" N. D. Ryabov, chief of the Local Industry Crediting Administration, "Individual Problems Concerning the Organization of Work With Local Industry Enterprises;" V. I. Solovov, chief of the Machine Building Industry Crediting Administration, "Some Problems Connected With the Crediting and Settlements of Accounts of Enterprises of the Ministry of Heavy and Transport Machine Building and the Ministry of the Electrical Equipment Industry;" A. I. Tkalya, deputy chief of the Light Industry Crediting Administration, "Organization of Work With Light Industry Enterprises in the Belorussian SSR;" V. S. Novikov, deputy chief of the central accounting office, "Organization of Accounting-Operational Work During the Servicing of Enterprises Participating in the Economic Experiment."

The following workers of republic and oblast Gosbank offices and departments spoke during the discussion of the activity of the Gosbank SSSR under the conditions of performance of the large-scale economic experiment at the seminar: G. K. Karbainov, chief of the Heavy Industry Crediting Administration of the Russian Republic Gosbank Office; O. N. Spitsyn and V. F. Mel'nik, chiefs of sectorial credit administrations of the Ukrainian Republic Office; A. S. Shashkovskaya, chief of the Light Industry Crediting Administration of the Belorussian Republic Office; Z. K. Sarymuldayeva, deputy manager of the Kazakh Republic Office; Z. I. Nikulikhina, chief of the Economic Planning Administration of the Estonian Republic Office; A. M. Tashayeva, chief of the Heavy Industry Crediting Department of the Moscow City Office; M. Gurskas, deputy chief of the City Administration of the Lithuanian Republic Office; N. A. Barbod'ko, manager of the Electrostal Department of the Gosbank; V. V. Martynova, chief of the Economic Planning Department of the Saratov Oblast Office; G. A. Agayev, chief of the Credit Division of the Narimanov Bank Department in Baku; N. L. Raspopova, chief of the Economic Planning Department of the Novosibirsk Oblast Office; M. Ya. Korobov, chief of the Crediting Industry Department of the Kharkov Oblast Office. In addition to this, 10 participants in the seminar (workers at the Belorussian Republic, Tomsk, Voronezh, Sumy, Gorkiy, Brest, Donetsk, Kalinin, Gomel and Irkutsk oblast offices of the Gosbank) presented texts of their speeches in written form to the presidium of the seminar.

Reports and speeches by the participants in the seminar noted that, basically, Gosbank institutions correctly organize crediting, financing and settlements of accounts, as well as control over the economic and financial activity of associations and enterprises transferred to the economic experiment. During the first 6 months of 1984, as compared with the corresponding period of last year, the total volume of credit investments in industrial sectors operating under the conditions of the economic experiment increased by 6.7 percent. Basically, credits were granted against commodity stocks and production expenditures, for the formation of a standard of internal circulating capital

and for the payment of suppliers' bills for commodity stocks and services during a temporary lack of customers' funds. At the same time, the overwhelming part of the credit had material security.

The strengthening of the relations between the bank and associations and enterprises operating under the new conditions along the line of stimulating measures connected with an expansion of the production of consumer goods and an improvement in their quality was an important direction in the development of credit relations. Long-term credits for the indicated purpose increased considerably. Bank credit actively promoted an increase in the volume and efficiency of industrial production, improvement in the qualitative indicators of work of associations and enterprises, mobilization of their internal reserves and strengthening of the economy and finances. A certain strengthening of payment discipline was attained under the conditions of the economic experiment--the level of overdue payments of bank loans and suppliers' bills was reduced by 34 percent as compared with the corresponding date in 1983. To a certain extent this reflects an improvement in the results of economic work.

Thus, the first results of the economic experiment make it possible to conclude that the realization of its key provisions has a positive effect on improving economic management and on further refining the manner and method of management.

Enterprises operating under the conditions of the economic experiment attained an improvement in the fulfillment of the plan in one of the main indicators--sales of output with due regard for contractual deliveries. As a result of labor productivity growth the entire increase in the output of products was obtained and assignments and socialist obligations for lowering production costs were overfulfilled. At food industry enterprises in the Ukrainian SSR alone, as a result of the implementation of measures for production intensification, a release of industrial and production personnel--2,200 people--was attained and work time losses were reduced by more than 24 percent. A saving of 9 million rubles on the expenditures of the wage fund was attained.

The output of improved-quality consumer goods increased considerably at the enterprises of the Belorussian SSR Ministry of Light Industry, which met the interests of strengthening monetary circulation. For example, during 9 months of 1984, as compared with the corresponding period of 1983, the output of carpet articles with the State Badge of Quality increased by 12.8 percent, of knitted underwear, by 26.2 percent, of knitted outerwear, by 31.3 percent and of leather footwear, by 23 percent. The production of improved-quality, new goods with the "N" (novelty) index rose 1.6-fold. The proportion of such output in the total volume of consumer goods reaches 32. percent as compared to 21.8 percent in 1983.

The growth of the volumes of production and sales of products with a decrease in production costs promoted an increase in accumulations. Throughout the economic sectors transferred to the economic experiment 291.6 million rubles of profit were obtained in excess of the plan during 9 months of 1984. A significant reduction in nonproductive expenditures in the form of payment of fines, penalties and forfeits, including fines for an untimely delivery of products, is also noted.

The standard method of profit distribution contributed to a certain extent to an increase in the interest of associations and enterprises in the overfulfillment of the plan for financial results (since the dependence of the profit remaining at their disposal on its total actual volume was ensured), which in turn

created the prerequisites for the formation of economic incentive funds in a higher amount as compared with the plan. For example, in the system of the Ukrainian SSR Ministry of the Food Industry the proportion of profit for the formation of economic incentive funds increased from 9.6 percent during the first 6 months of 1983 to 11.4 percent during the corresponding period of 1984.

However, the possibilities created by the new conditions of management are not yet utilized fully. Some economic organs do not cope with the fulfillment of basic planned assignments. A number of enterprises of the Ukrainian SSR Ministry of the Food Industry and of the Belorussian SSR Ministry of Light Industry permitted the output of poor-quality products. As before, many associations and enterprises continue to accumulate commodity stocks at rates exceeding the growth of the production program. In particular, at the enterprises of the Belorussian SSR Ministry of Light Industry the increase in commodity stocks outstrips the growth of the production volume by 11.3 percent and at the enterprises of the Lithuanian SSR Ministry of Light Industry by 5.8 points, which is reflected in a slowdown in the rate of turnover of standardized circulating capital. The right to charge an additional fee for above-standard uncredited remainders of commodity stocks at the rate of 3 percent of their value granted to ministries is not yet applied quite actively. Meanwhile, as was noted at the seminar (in particular, by N. L. Barbod'ko), this is a perceptible lever contributing to the normalization of circulating capital. For example, during the first 6 months the Elektrostal'tyazhmash Production Association additionally paid 84,000 rubles to the Ministry of Heavy and Transport Machine Building for above-plan commodity stocks, which impelled the association to take measures to reduce them by 1.5 million rubles.

The activity of associations and enterprises participating in the economic experiment is under the constant observation and control of Gosbank institutions. Gosbank offices have organized the systematization and accumulation of the basic indicators of work of the indicated associations and enterprises in coordination with the development of temporary credit relations. The materials of economic analysis of the results of economic and financial activity of associations and enterprises participating in the performance of the economic experiment are generalized systematically and the conclusions and proposals resulting from them are reported to local party and Soviet bodies, as well as to superior organs of economic management, for the purpose of a fuller mobilization of existing internal economic reserves.

For example, the Estonian Republic Gosbank Office on the basis of an analysis of the refusals to accept payment demands for products shipped to consumers, which were received by the enterprises of the Ministry of the Electrical Equipment Industry, made appropriate demands on the managers of these enterprises and attained a significant improvement in the work of their legal services and technical control departments. This brought positive results in the matter of strengthening contractual discipline.

The experience of Gosbank institutions in the Ukrainian SSR on work with enterprises enjoying payment credit deserves attention. When payment credit is issued, they study the causes of the financial difficulties that produced the need for it and, if necessary, offer planned credits on the basis of the current information of economic organs, thereby liquidating payment credit ahead



of schedule. Such efficiency is very important under the new conditions of work in industry, because the payment of higher interest on payment credit affects the amount of capital for the formation of economic incentive funds remaining at the disposal of enterprises. As a result, during the first 6 months of 1984 food industry enterprises, for example, paid 7.8 million rubles of interest on credit less than envisaged by the plan.

For the purpose of increasing the effectiveness of bank control over the economic and financial activity of the indicated enterprises, Ukrainian, Belorussian and Lithuanian republic, as well as Saratov, Irkutsk, Novosibirsk, Bryansk and some other oblast, Gosbank offices coordinated their activity with committees of people's control, territorial organs of the USSR State Committee for Material and Technical Supply and financial organs and discussed individual problems concerning the work of these enterprises in the local press, at the meetings of the scientific and economic society and on television.

As can be seen from the speeches by the participants in the seminar, in a number of cases associations, enterprises and superior organs of economic management promptly and correctly reacted to the demands made by the bank and took the necessary measures to regulate economic and financial activity. At present credit for such economic organs is extended in accordance with the procedure envisaged by the Statute on the Economic Experiment. However, at some enterprises of the Ministry of Heavy and Transport Machine Building, the Ministry of the Electrical Equipment Industry and the Ukrainian SSR Ministry of the Food Industry the state of affairs with the fulfillment of planned assignments and the state of utilization at a facility of its own circulating capital did not improve significantly. In connection with this Gosbank institutions are forced to intensify ruble control over the work of these enterprises.

At the seminar there was a discussion on how Gosbank institutions used the new levers of effect in the structure of the temporary credit mechanism, in particular on the right granted to managers of bank institutions to apply to economic organs differentiated interest rates (to increase or decrease existing interest rates within up to 20 percent) depending on their fulfillment of planned assignments and the state and utilization of circulating capital. Gosbank institutions applied this measure of effect most actively in the Belorussian SSR.

In connection with the nonfulfillment of the evaluating indicators of work, allowance of a shortage of internal fixed capital or its withdrawal into above-plan commodity stocks higher interest on credit was charged at 11 enterprises of the Belorussian SSR Ministry of Light Industry during the second quarter of 1984. As a result of the increase in interest rates 151,400 rubles were additionally exacted from enterprises and interest rates were lowered at nine enterprises of this ministry, which ensured a stable fulfillment of planned assignments and an efficient utilization of circulating capital. The indicated enterprises received a saving of 76,400 rubles on interest payment. However, in the opinion of A.S. Shashkovskaya, the application of differentiated interest rates does not significantly affect the cost accounting interest of enterprises, because according to the statute in effect the saving on the interest on credit remains at the disposal of enterprises only within 10 to 15 percent

and the remaining part (up to 85 or 90 percent) is withdrawn into the budget in the form of standard deductions from the profit. Basically, additionally paid interest reduces the amount of profit received in favor of the budget. In connection with this it is proposed that the following problem be examined jointly with the USSR Ministry of Finance: establishment of a procedure under which additionally paid interest on credit in connection with an increase in the interest rate would be paid from the profit remaining at the disposal of the enterprise, that is, as envisaged during the payment of the charge for above-plan productive capital in favor of the ministry. However, the saving on capital obtained as a result of a reduction by the bank of the amount of the interest rate should be added to the profit, which remains at the disposal of the enterprise after deductions into the budget according to the established standard.

As N. L. Raspopova noted, in a number of cases the stimulating role of differentiation of interest rates is neutralized by the existence at a facility of serious shortcomings in the planning of payments for the use of bank credit. For example, at the Sibelektroterm Production Association an overstatement of the planned percent on credit in the amount of 250,000 rubles artificially created a saving of 112,000 rubles on interest at it during the first 6 months and this under conditions when the interest rate was raised by 20 percent.

The differentiation of interest rates has not yet been widely applied in the practical work of bank institutions. As some participants in the seminar noted, the complexity of solution of the problem of its application to a specific enterprise is one of the reasons for such a situation. For example, almost every enterprise allows the withdrawal of capital for unplanned purposes to some degree or another. The following question arises: What is to be done in this case with the establishment of a preferential interest rate on credit for an enterprise that fulfills basic planning indicators, but does not utilize circulating capital efficiently? Ya. B. Terushkin considers it advisable to introduce the indicated privilege only for the fulfillment of basic technical and economic indicators and for ensuring the preservation of internal circulating capital. With regard to above-standard uncredited commodity stocks they should not be taken into consideration in this case, bearing in mind that in accordance with the conditions of the economic experiment the enterprise pays the ministry an annual interest of 3 percent for them.

The seminar also discussed a problem connected with the practice of application under the conditions of the economic experiment of a differentiated regime of extension of credit to production associations and enterprises. The opinion of the majority of the participants in the seminar was reduced to revising existing criteria of evaluation of the activity of enterprises taken into consideration during the application of a differentiated crediting regime. In the opinion of G. K. Karbainov, the indicated crediting regime should be introduced on the basis of fulfillment of a limited (as compared with the existing one) range of economic indicators, that is, fulfillment of the sales plan with due regard for obligations concerning deliveries of products and the preservation and correct utilization of internal circulating capital. S. N. Novikova proposes that a somewhat different range of indicators be taken into consideration: fulfillment of contractual delivery obligations and assignments for a reduction in the expenditures on production and labor productivity growth, as well as for the development of science and technology.

Much attention was paid to an exchange of views on problems concerning the utilization of payment credit. A. S. Shashkovskaya noted that light industry enterprises in the Belorussian SSR efficiently utilize payment credit, promptly settle their accounts with suppliers for commodity stocks, but by no means always promptly receive funds from customers for payment for their products. At some light industry enterprises the overdue debts of customers reached amounts constituting about a semimonthly volume of sales of output. In connection with the nonfulfillment for this reason of sales plans the derivation of profit is not ensured in the planned amount and economic incentive funds are not compounded sufficiently. As a result, enterprises, fulfilling their contractual obligations, are hurt in terms of material incentives, toward which the economic experiment is directed. Therefore, she proposed that the procedure of granting payment credit envisaged by the experiment be applied to all enterprises. At the same time, it is taken into consideration that the new procedure of granting this credit is not only more preferential, but also stricter in the sense that it clearly determines the limit for the use of credit. If its return is not ensured within 90 or 120 days, the bank stops the further issue of credit.

In contrast to this Z. I. Nikulikhina believes that payment credit should be granted to economic organs depending on the utilization of circulating capital and fulfillment of basic planned assignments, because, in her opinion, an unimpeded granting of credit, ultimately, will cause overdue payments.

M. Ya. Korobov believes that the procedure of issue of payment credit established for the participants in the economic experiment does not contribute to the adoption on the part of economic organs of measures aimed at an increase in responsibility for the utilization of circulating capital and, in practice, leads to the coverage of constant financial gaps at them. He proposed the establishment of periods of use of this credit lasting 60, 90 or 120 days according to the total length, not according to the movement of debts on every loan.

In the opinion of N. L. Raspolova, the existing mechanism of granting payment credit confronts us with the fact of withdrawal of circulating capital into above-plan commodity stocks, but bank sanctions applied post-factum do not always give the proper result, in connection with which limitations in the utilization of payment credit should be placed at the moment it is received.

Many participants in the seminar, characterizing the development of temporary credit relations with associations and enterprises along the line of payment credit, stressed the inefficient effect in its structure of sanctions in the form of decreasing the amount of the issue of credit by the amount of unmarketable, surplus and other physical assets not credited by the bank. Practice has shown that the application of this sanction leads only to a delay in the settlements of accounts for commodity stocks and causes additional work on the part of the accounting personnel on the calculation of and payment for overdue accounting documents.

As pointed out in speeches by the participants in the seminar, along with bank credit other value levers and incentives, including those envisaged by the statute on the economic experiment, should be utilized more actively in the

fulfillment of assignments for drawing above-standard and unutilized commodity stocks into the economic turnover. In the opinion of V. V. Ryazanova, G. K. Karbainov, A. M. Tashayeva and S. N. Novikova, the standard statute on the award of bonuses should envisage a reduction of up to 25 percent in the amount of bonuses to enterprise workers for the permitted growth of above-standard commodity stocks and uninstalled equipment and nonfulfillment of the assignment for drawing material resources into the economic turnover.

When problems of control over the expenditure of wage funds under the conditions of the economic experiment were discussed, an imperfection of the procedure of formation of the basic wage fund was noted. In the opinion of a number of participants in the seminar, the payment of wages within the basic fund calculated according to actually computed wages during the year preceding the experiment does not contribute to an economical expenditure of wage funds, because this fund contains all the unproductive payments made during the preceding year. The correction by the amount of the uncompensated overexpenditure of the wage fund introduced into the basic wage fund does not change much the state of affairs, because it reflects only a small part of the unproductive payments allowed by an enterprise. In connection with this it was proposed that, when the basic wage fund was formed, the amount of the uncompensated overexpenditure, as well as all unproductive payments, be excluded from the actually computed wages during the preceding year.

The opinion on the advisability of establishment in the labor plans of such enterprises of standard correlations between the increase in labor productivity and the increase in average wages was also expressed.

V. S. Zakharov, member of the Board of the Gosbank SSR, summed up the seminar.

The results of work at the seminar were discussed at the meeting of the Board of the Gosbank SSSR held on 12 September 1984. The Economic Planning Administration and sectorial credit administrations were instructed to examine the critical remarks and proposals expressed at the seminar.

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INDUSTRIAL DEVELOPMENT AND PERFORMANCE

COMPLEXITIES OF PRODUCT QUALITY IMPROVEMENT EXAMINED

Moscow EKONOMICHESKIYE NAUKI in Russian No 2, Feb 85 pp 56-61

[Article by N. Goncharova, candidate of economic sciences, Kiev: Conditions for the Development and Planning of Production Quality". Phrases in bold-face italicized in text]

[Text] Because of the dynamic growth and completeness of social demands, the problem of improving output quality is a difficult and complex one. Studies of the majority of authors as well as official directive documents and the recommendations of the USSR Council of Ministers' State Committee on Standards concerning problems of production quality control reflect the fact that raising output quality presents a complex problem.<sup>1</sup> It is caused by the fact that the level of quality is set at all stages of the production life-cycle and depends on the quality of fundamental production elements (labor, objects of labor, means of labor), on all that makes up the finished article (natural and synthetic material, components, etc.) and on many factors and conditions that are economic, social, organizational, technological and legal in nature. In considering these constituents, in our opinion, it is necessary to take into account the following points.

FIRST, the quality problem has outgrown the limits of separate production branches, becoming an extremely widely ramified inter-branch economic problem. The quality of finished output is intimately related to that of technology, semifinished goods and synthetic and natural materials. SECOND, the very preliminary stages of production already determine the quality of goods inasmuch as all necessary preconditions come into existence there. Continuing its development at the level of the actual production process, quality then is given its complete and full meaning (valuation) at the stage of exploitation, i.e. in the consumption sphere. THIRD, it is important to assess not a separate sample but the entirety of production intended to satisfy social and personal demands of one kind or another. Therefore, quality cannot be isolated from quantity: the higher the former, the lower the volume of the goods required to meet demand. FOURTH, expenses related to raising quality are generally incurred at the preparatory stage and in the course of the production process. Yet the savings realized thanks to such an increase in quality are not seen immediately but only after some time, at the stage of

consumption. We note in this connection that price increases because of a rise in quality do not always entirely compensate for the means additionally used in the beginning stages of development.

The enumerated characteristics of product-quality formation must be considered in terms of the further improvement of this process. It is a matter of determination of indicators of the level of quality and precise observation of their relationship to indicators of scientific and technical progress and the economic activity of enterprises and branches of the economy, a matter of valuation of each section of the plan in the light of increased production quality and a matter of utilization for this purpose of price formation and financing as well as methods of evaluation and economic incentives etc.

New tendencies in the development of output quality are characteristic of contemporary accelerated scientific and technical progress. The task is one of making them suitable and introducing those changes into the economic mechanism that are determined by objective processes in the development of output quality and by new demands that it be raised.

Change in the demands for production quality in turn make it necessary to perfect the interaction between manufacturing and utilizing enterprises and the system of material and moral incentives for production of goods at the required level of quality. The chief requirement is greater utilization of systematic taking into account of social demands as well as organization of production in conformance with these. Under such conditions, the problem of quality becomes one of the social use value of goods. Quality then becomes the main characteristic of production and the most important indicator of the expediency of the organization of the production process according to a plan and of the activity of the enterprise, the association and the branch.

If the combined characteristics that make goods suitable for the satisfaction, specific to product design, of concrete demands constitutes our definition of output quality, we have considered one, albeit very important, facet--the technical and economic one--of the meaning of quality. However, being one-sided, this definition must be incomplete in that it leaves aside economic and social relationships, which are related to quality and its changes over time in the most direct way.

THE ECONOMIC NATURE OF PRODUCTION QUALITY UNDER CONDITIONS OF SOCIALISM IS DETERMINED BY THE UNEQUIVOCALLY SOCIAL CHARACTER OF WORK AND THE NATURE OF USE VALUE.

As is well known, use value is included by K. Marx among questions considered by the discipline of political economy.<sup>2</sup> Marx points out the necessity of distinguishing the qualitative and quantitative sides of use value. The

quantitative assessment of magnitudes of use value is easily analyzed. The determination of its qualitative side creates great difficulties. However, in a total analysis, the qualitative and quantitative sides of use value may not be separated from one another. It is well known that increased quality of goods is often equivalent to increased quantity.

Here it must be taken into account that the quality of the product, like use value as such, being the result of labor and the production process, is disclosed only at the consumption stage. The relationship of production and consumption is worked out through distinct conditions of production. Under socialism it is determined by the dominance of socialist property and is most clearly expressed in the basic economic law of communist structure.

The economic requirement to raise the quality of production by socialist enterprises is quite a strong one under contemporary conditions.

Let us consider different aspects of this difficult problem. In the 1980's, as was emphasized at the 26th CPSU Congress, it is necessary to "secure the continued economic progress of the society and large-scale achievements with respect to quality in the material-technical base brought about by acceleration of scientific and technical progress and intensification of social production and increased production efficiency."<sup>3</sup> The 11th Five-Year Plan has seen a stronger orientation toward solving the most important problems involved in changing over the economy at a more rapid rate to a path of development largely based on scientific and technical progress. This intensive path of development, according to K. Marx, presupposes the adoption of more efficient means of production.<sup>4</sup> The resource capacity of production and the productivity of labor are to a great extent determined by the technical level and quality of technology that is manufactured, with machine-building playing a decisive role. To the extent that production of machines incorporates the most advanced achievements of scientific and technical progress, it can be the "driving force" of intensification.

In developing the quality of products (in particular, machines), it is necessary to find the best type. To resolve this problem requires: first, authentic and complete reflection of the requirements and requests of users for quality of the manufactured goods; second, objective assessment of the practical possibilities of production for manufacturing and delivering the quality specified by the design; and, third, a versatile orientation to existing domestic and foreign scientific and technical advances.

The emergence of quality as a problem of paramount importance is a function of the characteristics of the development of production capacities under the conditions of mature socialism. The most important characteristics of production under these conditions are acceleration of the succession of models and forms of production and growth of its complexity. We now find especially complex technical systems consisting of a great number of

related assemblies and components and thus increased requirements for reliability, interchangeability and precision in machining and measurement. Working parameters for finished production have grown: working speeds, temperature and pressure--which has led to new requirements for improved quality in materials used, especially in the form of durability, wear-resistance, temperature-resistance and other characteristics of this kind. In our times, an acceleration of the scientific and technical revolution has had a double effect on production quality. On the one hand, the perfection of the means of production and of technological processes creates the practical preconditions for an increase in the quality of production. On the other hand, the increased difficulty of realizing this advance is in direct proportion to the growth in the number of types of product made and to the greater complexity and continued rise of requirements. The latter, which outstrip production in their development, demand the integration of new types of goods as well as uninterrupted expansion of output until the users are provided with everything needed. As a result of this process, a new requirement arises, which demands for its satisfaction the development of still more advanced articles. Consequently, the raising of quality of production makes it possible at each stage in turn to resolve continuously renewed discrepancies between production and consumption and is an objective necessity in the development of social production.

The demands for production quality presented by society are always determined above all by the question of how goods will be used and under what conditions. The conditions of use constitute development and incorporation of the manner of use. In combination the two factors have a crucial influence on the social valuation of quality.

In practice the nature of quality is not infrequently looked upon as inherent primarily in the production sphere. However, without diminishing the great importance and even pre-eminence of this sphere, we must not take it out of the context of the production process as a whole. Fundamental questions concerning one level or another of production quality ought to be resolved at early stages in the development of new technology (research, design and construction). It is precisely when machines are being designed that the highest degree of conformance of their parameters to specific user demands can be provided. Lowering (and raising) the level of quality in relation to practical requirements leads to economic losses. When machines are of low quality, social demands are not fully met. As a result the economy does not receive the essential quantum of effect.

To take into account the needs of the consumer sphere is a mandatory rule of the development of the quality of products, in particular, machines. However, in applying this rule in practice, we are compelled to differentiate in terms of the number of users and the type and degree of specificity in the demands they make. To design machines for a single user or a small group with uniform (or similar) needs and conditions of equipment use



is one thing. It is another when a number of consumers exists, whose demands for machine quality are quite varied and who will employ the machinery under substantially varied conditions. The question arises: to whose demands is one to be oriented? If to minimum demands, that segment of the users with high-quality requirements will not find complete satisfaction. If to maximum requirements, the level of machine quality will represent an upscaling that is not justified in the case of some users.

Because scientific and technical progress in the economy has been accelerated, it is all the more necessary to set expedient limits to the quality of machines. In this, there is great practical value in the calculation of the moral depreciation factor. Contemporary technology makes it possible to develop machines with a life calculated at 20-30 years. However, prolonged life of this magnitude may slow down the productivity of social labor and cause material resources to be used inefficiently.

Quality is established in machine design, secured in production and disclosed in exploitation. The resultant problem is one of determining the actual operating expenses and total savings from lowering these expenses for the consumer. This lends importance to the problem of organizing periodic exchanges of information about the use of machines: useful life to first overhaul, operating expenses throughout useful life and other factors. It is extremely difficult to make connections with all user capacities inasmuch as these are counted in the hundreds in many cases. But this problem can be solved on a central-government level in the context of automated control systems.

In evaluating the efficiency of using machines of higher quality, a systematic approach is indispensable: from solving problems of a higher order--the possibility and expediency of replacing old technology with an innovation--to the introduction into use of a specific machine, a new work-station, an element in a mechanized system and so forth. A systematic method for evaluating the efficiency of new machines allows the step to programmed targeted control of their quality with planned end results and control of technical refitting and renewal of production equipment.

Consistent growth of technology and its development in quality and design are major trends in economic growth in conformity to a plan, with increasing efficiency of production. In realizing these trends we are obliged to distinguish two aspects: first, the required production of technology that is sufficient as to quantity; second, the necessary upscaling of the level of satisfaction of growing demands on technology with respect to the demanded quality and measures for its achievement.

As the processes of developing and integrating technology are accelerated, existing reserves are concealed, such that mobilizing them does not always require major organizational and economic measures of one kind or another. The principal question is how effective over the long term new technology

will be in terms of the ideas it incorporates and the quality shown under use. This includes the questions of how well the technology satisfies demands and how it correlates with the best examples of foreign technology. Noteworthy in this plan is the experience of a number of institutes of the USSR Academy of Sciences (electric welding, cybernetics and superhard materials), gained jointly with industry and demonstrating that everything based on fundamental research can satisfy demands in production and consumption over the long term and effectively.

In order to regulate the complicated, multifaceted conditions governing the development of quality, it is necessary to PERFECT PLANNING METHODS TO CONTROL THIS PROCESS. Only through planning can one problem be solved, that is, which technology should have primary production and which directions of scientific and technical progress have the right to priority in realization. This enhances the importance of centralized planned control of changes in quality, structure and assortment of goods produced that is aimed at a better balance between production and consumption. Planned rises in production quality assume in principle a realization of interrelated functions: planning of articles with higher weight per item such that their characteristics in use and their socioeconomic effect are enhanced and also coordination of plans for raising quality along the vertical and horizontal in a unified planning process.

Measures taken in recent years for the improvement of plans to develop science and technology<sup>5</sup> have made it possible to strengthen centralized management of the original processes involved in raising the quality of production and directing them toward good economic results. However, these measures only applied to a part of the system of planning to raise quality and do not have a sufficient effect to increase efficiency and the quality of technology utilized in production.

The system currently in force for planning the rise in quality of production carries out only the first function--planning for consistent realization of technical and production measures to improve the parameters of articles and expand the scale on which the more contemporary technology is produced. It does not foresee the fulfillment of the second function--planning large-scale unified economic and organizational measures to raise quality at all levels of the economic relationship among them. As a result the unified economic problem of raising the quality of production and the growth on this basis of efficiency in production, essentially, is not adequately oriented to the end result.

In order to overcome existing discrepancies among approaches with respect to method in planning for production quality along vertical lines, it is expedient to represent the process of raising production quality in indicators, norms and normatives with provision for adjustment. By the same token the

indicators of production quality become plan-controlled through confirmation of normatives derived from them (for example, the normative of expenses per unit of useful effect of machines or that of socially necessary level of quality, etc.).

The planning process is regulated and fulfills its organizational function on the basis of a system of indicators which are the foundation for planning and predicting the socially necessary level of quality, economic incentives for output of high-quality goods; assessment of use characteristics of articles in planned price formation; accounting of the economic efficiency of raising production quality and organization of control of such accounting at different levels of the hierarchy of economic management of production of these goods.

However, the system of planning indicators in force (disregarding their known advantages) is faulty in many regards, in our opinion. Thus, for example, no use is made of planning indicators for raising production quality that provide "through" communication of directive goals from planning bureaus to enterprises. The principle of the common character of production quality indicators is not maintained at different stages in production control. This creates greater difficulties in planning production quality that differs substantially according to use characteristics.

Progress is retarded in the direction under discussion by another situation, namely that economists have already been discussing for a long time the content and composition of indicators of quality planning. Many authors think that it is not possible to establish a summary indicator, advocating a system of indicators. However, it is not methodological difficulties in defining the summary indicator, but the incorrectly posed question "either-or" that creates the problem: either a system of indicators, or one summary one. In our opinion, both a system of indicators and one summary indicator are necessary, depending on the level of planning. The summary indicator would make it possible to evaluate the level of advancement of production and its superiority to other forms even if quite approximate criteria were employed. For articles intended for use in production such an indicator, as we envision it, could be the expressed relationship of their basic exploitative property to combined costs involved in their manufacture and use. Such an indicator is able to reflect not only the quality of the article, i.e. its use characteristics, but also its manufacturing costs.

Along with this, it should be kept in mind that total natural value is scarcely an acceptable indicator for machines and equipment. Here, clearly, one must use the cost indicator, characterizing the efficiency of using this or that equipment under conditions of exploitation. In the final analysis we are interested not only in this or that number of units of production but the ability of each unit to satisfy social demands. The total social use costs that arise must be commensurate, and resources must be used in manufacturing the product in the required volume. Then we can assess the actual level of

quality of production for a specific period of time and measure the degree of its influence on accelerating scientific and technical progress.

In machine-building there is a close and mutual interdependency of quality indicators as to manufacturer branches and as to user branches. Thus the increase in the reliability and durability of articles of chemical machine-building is held back in that output of dual-layered pipe rolls with protective coating for use in aggressive media is limited. This factor has **special** significance in the electrotechnical industry, the products of which are used in many branches. Progress and rate of development in this branch depends heavily on quality of equipment and materials; the quality of the latter, on quality of electrotechnical steel, tungsten, insulation etc. The quality of products of ferrous metallurgy is in large measure determined by the parameters of electrotechnical melting and thermal treatment ovens and by systems of automated electro-drives for rolling mills etc. This chain of interdependence can be extended indefinitely.

The indicated interrelationships with respect to quality ought to be joined in a single planned organizational process with use of the most varied indicators--of essential content, level of control and accounting methods, but one must still take into account the economic expediency of the efforts made to raise the final product of the branch or any section of it.

It should be pointed out that, as a result of the failure to value quality as an economic category, appropriate economic indicators were actually not used for a long time, which caused substantial shortcomings in planning and using economic incentives to increase output of high-quality products. There have been not a few cases of incommensurate increases in indicators characterizing quality of labor and culture of production, but not at the level of the quality of the goods manufactured. In speaking of such indicators, we will point to, for example, decreased losses through waste, unsatisfactory equipment claims or fines for low quality and increased volume of production given over to the Department of Technical Control at the initial presentation. Certainly the quality of production depends on how well production processes are carried out and how closely technical instructions and demands posed by the State Committee on Standards of the USSR Council of Ministers and technical conditions are observed, as well as on enhancement of production culture etc. But labor quality indicators cannot characterize the quality of goods produced from the standpoint of how closely they conform to the requirements of the economy and to the best domestic and foreign products. The indicators cited must be used, of course, but they scarcely exhaust the list.

A quite modern concept is the perfection of theory and practice for the planning of product quality as one of the links in the total system of economic planning. It ought to impose tasks and indicate ways and means in a resolution of them that is differentiated for each hierarchical level of the



economy by means of a system of economic indicators. To make the latter specific according to the very important nomenclature product groups (or according to series of articles grouped by parameters) should not be to exclude categorization. In the plan one should include information about which forms of production to transfer from the first to a higher category and which from the second to the first category and which are to be taken out of production. Here, of course, one ought to take into account the entire nomenclature of goods produced (as a rule the process of expanding it is being intensified under conditions of scientific and technical progress). Thus, consolidation of a centralized origin for planning makes it possible to better determine whether it is expedient to go over to output of new products and curtailment of production of obsolete ones and activate important elements of technological progress by this means.

It is known that not all products lend themselves to categorical valuation (attestation); for this reason, it would be expedient, in our opinion, to establish separate programs for improving quality (and no longer, in any case, leave this problem aside in working out goal-oriented overall scientific and technical programs). Use of such programs makes it possible to provide close coordination of managers and concentration of material, financial, scientific and labor resources in resolving primary problems in the fundamental improvement of production quality.

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#### FOOTNOTES

1. See, for example, "Kompleksnaya sistema upravleniya kachestvom produkcii. Rekomendatsii po razrabotke i vnedreniyu v ob"edineniyakh i na predpriyatiyakh" [The Complex System of Production Quality Control. Recommendations on Revision and Integration in Associations and Enterprises], 2nd ed., Moscow, 1977; V. F. Dobrik and B. P. Bayborodov, "Tseli, printsipy i metody upravleniya kachestvom produkcii (opyt promyshlennykh predpriyatiy L'vovskoy oblasti)" [Goals, Principles and Methods of Production Quality Control (Experience of Industrial Enterprises of L'vov Oblast)], Moscow, 1978; A. V. Glichev and others, "Upravleniye kachestvom produkcii (opyt, problemy, perspektivy)" [Control of Production Quality (Experience, Problems and Prospects)], Moscow, 1979; V. F. Dobrik and Ye. T. Udovichenko, "Nauchno-tekhnicheskiye i obshchestvennyye problemy upravleniya kachestvom. Opyt L'vovskoy oblasti" [Scientific-Technical and Social Problems of Quality Control. Experience of L'vov Oblast], ed. V. V. Boytsov, Moscow, 1980; V. K. Zlobin, "Ekonomicheskii mekhanizm povysheniya kachestva produkcii" [The Economic Mechanism of Improving Quality Control], Moscow, 1980 and other sources.

2. See K. Marx and F. Engels, "Sochineniya" [Works], 2nd ed., Vol. 13 p 14.

3. "Materialy XXVI s"ezda KPSS" [Materials on the 26th CPSU Party Congress], Moscow, 1981, p. 137.
4. See: K. Marx and F. Engels, op. cit., Vol. 24, p 193.
5. This is to mean the expansion of the scale on which planning of work involving new technology is planned by goal-oriented programs and consolidation in the state planning structure of overall programs for standardization of production and indicators for output of goods in the higher quality category and of the technical and economic level of development of branches etc.

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## RESOURCE UTILIZATION AND SUPPLY

## KEY ROLE OF SUPPLY IN INTENSIFICATION DRIVE STRESSED

Tashkent EKONOMIKA I ZHIZN' in Russian No 2, Feb 85 pp 32-36

[Article by Z. Potapova, chairman of the Department of Material and Technical Supply, TINKh [Tashkent Institute of Economics], lecturer, candidate of economic sciences: "Organization of Material and Technical Supply and Strict Observance of Contract Discipline" under the rubric: "An Operational Mechanism: Economic Experimentation in Industry"]

[Text] The transition of our economic system on to the path of intensification and future growth in effectiveness of socialist production is not possible without improving the material and technical supply system. At the 26th Party Congress of the CPSU it was noted that increasing the system's role and responsibility for the over-all supply to enterprises of capital goods is a necessary condition for continuity and regularity in the production process itself.

Practice has shown that about one third of all shift downtime is caused by the absence or late supply of some material, stock, semimanufactured goods, raw material, etc. Often a disruption of production schedules is a consequence of these supply reductions, and this disruption in turn causes emergencies and the need for rush work. This all has a negative effect on the utilization of production capacity, labor productivity, production costs and quality and also contributes to an increase in defective output and disrupts the operational rhythm of related enterprises. This disruption in turn becomes the reason that enterprises do not fulfill their plans both in volume of production and in type and variety, because of shortages of needed raw and other materials compel enterprises to halt production of goods planned and to produce goods for which there are material resources but for which there is limited demand. This leads to the accumulation of unsold products, disrupts the mix of materials delivered and increases the cost of production. If, for example, 22 and 24 mm diameter stock is used at machine manufacturing plants as a result of the short supply of 20 mm stock (this happens often), the result is unproductive equipment workload, lowered labor productivity and increased material waste. The forced use of enhanced strength metal produces the same results.

The lack of the necessary mix of material resources still remains a serious problem. How can this problem be solved? Economists know that in recent



years the range of centrally distributed (stocked) capital goods has consistently grown. This has been facilitated by yearly increases in the listings of products produced. Since each enterprise producing capital goods operates jointly with others, it, consequently, is simultaneously both a consumer and supplier and material resources that it receives for production needs, and its own products are planned according to this consolidated products list. However, this list, as has been shown during large scale economic experimentation, doesn't always serve as a sufficiently precise measure for determining the true volume of production out-put at enterprises and production needs for material and technical resources.

For example, at Sredazelektroapparat [Central Asian Electric Equipment Plant] this expanded products list became the prime reason for plan imbalance according to many indicators. Plan production volume approved for 1984 did not correspond to the real volume compiled on the basis of order specifications. Thus, only 70-75 percent of the established plan was supplied. The ministry has planned 52 parts listings, but the enterprise produces output of about 440,000 varieties. Since the main goal of experiment participants was to produce a broad products list on time and in quantities stipulated by contract and executed by order, it would be proper to plan production output according to an expanded products list also in ministries.

Production and supply are inseparable links of one chain. Preliminary results of the economic experiment convincingly proved that desired results can be achieved only if these links are efficiently coordinated. In such a case there emerges the real possibility to promote the improvement of the scientific and technical level of production, to introduce and to make operational new, more economical types of equipment and materials more quickly and to improve continually all production processes, which in turn must be incorporated in plans. For example, when developing fuel use standards consideration should be given to the possibility of introducing high and super-high pressure boilers, automating combustion processes and improving furnace devices. Supply plans for agriculture call for the use of the most productive types of machinery. In determining needs of certain enterprises and sectors of the economy for materials that are very expensive and in especially short supply, the possibility of using new, more economical and advanced materials and their substitutes should be considered.

The sum total of what I have outlined above will provide the chance to reduce production costs and to increase intraindustrial savings. In addition, properly organized material and technical supply to an enterprise precludes excessive supplies of raw materials and other materials, increases the turnover rate of working capital and improves the enterprise's financial condition and also contributes to strengthening resource economy procedures which are especially important today in the light of cost increases.

Development of national production in the future will be due to intensive growth factors and also more efficient use of the productive potential of the country. Therefore, goals for economizing and efficient use of material resources are being raised. By the end of the current five-year plan it will be necessary to ensure reduction of conventional fuel consumption by 160-170

million tons, unit consumption of ferrous metal stock in machine-building and metal-working by not less than 18-20 percent, steel pipe by 10-12 percent and non-ferrous metal stock by 9-11 percent. Tougher targets are being set up for the expenditure of wood, cement and other materials.

The main role in accomplishing these tasks belongs to enterprises which are hooked into the experiment, because the idea of the experiment is, thanks to the enterprises' stable operation and unconditional fulfillment of production and delivery plans, to guarantee the creation of a definite reserve of resources that would permit transfer of other sectors of the economy to the new format.

The targets noted for saving fuel, raw material, other materials as well as labor and financial resources of the ministry, the department, the enterprise and the organization must be regarded as minimum savings to be reached with certainty. Also, a combination of measures for saving resources, including the use of modern equipment and low-waste and non-waste technology, must be developed and introduced, and the broad dissemination of innovation ensured.

In recent years Gosstab agencies have achieved definite results in improving the use of material resources. Control over the use and the economy of materials in short supply, especially non-ferrous metals, is stronger. In the last five-year plan savings of 300 million rubles were achieved as a result of a review of standards for the expenditure of allocated products. The down payment for further successes in this area, as mentioned previously, is in efficient planning and resource allocation--the proper configuration of reserves and their management and in the acceleration of the turnover rate of working capital, the speeding-up of which by only one day could produce country-wide savings of about 1.5 billion rubles. Achieving this goal depends in large part on the planning, allocating and operational efforts of Gosstab agencies both centrally and locally.

A large economic reserve lies in the use of secondary raw material resources. We still must provide for the broader involvement of these resources in economic activity. We should develop more energetically the material and technical base of organizations which have undertaken the procurement and processing of secondary raw materials.

An important way to enhance the role of Gosstab in the efficient use of material resources is to expand production services to the consumer. Suffice it to say that preliminary processing of materials at the supplier's enterprise produces savings of raw materials and other materials of 10-15 percent.

Raising the efficiency of packaging materials usage remains very urgent. Today, more than 10 billion rubles a year are spent of their manufacture. Preliminary calculations indicate that in the future this figure will grow by a factor of 1.3-1.4.

The fact that the development of the packaging industry of the country lags at the present time behind the pace and level of development of industry over-all

has produced the need to use packaging materials more efficiently. This situation creates difficulties in marketing industrial and agricultural production and leads to losses.

One of the conditions for efficient use of packaging materials is a scientifically-supported determination of the need for them. This presumes the development of more modern standards for the consumption of packaging and packaging materials. The degree to which this is important is clear from the following example. Specific weight of wooden packaging constitutes 50-60 percent in USSR. Approximate calculations show that today savings of wooden packaging materials and cardboard packaging according to existing standards are only three percent of the total. It is believed that if the demand structure remains the same, to produce wooden packaging necessary this year the need for timber products will rise by a factor of 1.7, and next year by a factor of 2.5 compared to 1975.

Modern types of shipment--containerized, bulk and also specialized means of transport--will help to raise the efficiency of packaging material use.

Raising the efficiency of material and technical supply depends to a large extent on the efficiency of the means of bringing technical products to the customer from the manufacturer. We must bear in mind that these means might be different for different material resources. Types of supply vary: direct shipment; warehouse shipment; direct, long-line operational links; guaranteed total supply; wholesale trade, etc.

For the purpose of achieving the optimum correlation of the means of supplying material and technical resources we must bear in mind the following: needs to minimize turnover loss in bringing produce from the manufacturer to the consumer; to maximize conformity of product shipped to production requirements and the efficient use of the production capacity of the producer; to make optimum, aggregate reserves of material resources; to minimize the circulation of documents pertaining to product supply.

In analyzing the development of traditional forms of supply, one must note that until recently the direct shipment type of supply predominated to the detriment of warehouse shipment. The existing relationship between them does not satisfy the need of enterprises for warehouse deliveries and that impedes the development of advanced types of supply--guaranteed total supply, centralized product delivery, supply maintenance by order, etc.

Along with the traditional types of supply in the UzSSR Gosnab system, the advanced direct, long-line operational links system [PDKhS] between suppliers and consumers has recently developed substantially. As a rule, the links are set up for deliveries of raw materials and other materials intended for large scale and large series production and also for semifinished products, by means of which enterprises are connected with one another by the production technology of the product or item which is produced to the specifications of the buyer in a cooperative delivery arrangement.

In the PDKhS system, types of relationships between suppliers and consumers are established in which, within the limits of over-all capital and a group

product list set up by a higher level organization, suppliers of materials together with the providers of capital resolve all questions concerning product variety, its quality, production timetables and payment terms in accordance with contractual relationships. Also, these links are established for a long period of time. The number of deliveries by PDKhS in the republic has been growing every year. In 1983 according to UzSSR Gossnab the amount totaled more than 500 million rubles, which is 10 million more than the previous year.

Beginning with the 10th Five Year Plan, guaranteed comprehensive supply [GKS] started to be more widely circulated. Territorial supply and marketing agencies attached to GKS have become responsible for selling materials allocated to consumers, both on product delivery from enterprises as well as direct shipment, with delivery to the point of demand on an agreed to timetable and with the rendering of a wide selection of services to the consumer on a contract basis. With guaranteed comprehensive supply, all questions on the sale of material assets are resolved by the enterprises directly with the territorial supply agencies. In this connection their responsibility for uninterrupted maintenance of suppliers and for the organization of the whole process of material and technical supply has increased sharply.

Comprehensive supply according to agreed upon schedules permits the regulation of the supply process in conformity with the production process and thereby contributes to the maintenance of a regular tempo of production and construction. It also permits the establishing of closer contact between supply agencies and production and the implementing of strict control over the expenditure of materials and the observance of an economy plan.

At present in our republic 110 consumers, including all associations and enterprises participating in the economic experiment, have been transferred to the GKS system. The volume of product delivery by GKS was 102 million in 1983, and the supply and marketing organizations of UkSSR Gossnab on the whole maintained the obligations undertaken.

A type of material and technical supply like wholesale trade in technical production plays a big role in raising the efficiency of nationwide production. In 1983 a wide variety of goods worth more than 300 million rubles in sales was sold to consumers of the UxSSR through wholesale stores. This type of supply makes it possible to satisfy consumer inquiries at the time when production becomes available and also avoid the complicated, labor-consuming and ineffective system of getting tentative customer orders and to deliver production based on the customer's order. This will substantially speed up the turnover rate of material resources and increase their mobility.

As part of the experiment, an evaluative indicator, "volume of product deliveries in accordance with contracts," was introduced in order to strengthen supply discipline and control over deliveries. Its role increased noticeably after the appearance of the resolution of the CPSU Central Committee and USSR Council of ministers, "On Improving Planning and Strengthening the Impact of the Economic Mechanism and the Efficiency of Production and the Quality of Work," in which the indicator is determined an evaluative indicator for both



industrial enterprises and supply agencies. With its introduction into the territorial agencies of the USSR Gosstab system, including in Uzbekistan, several organizational changes have been made to strengthen administrations and services engaged in product supply and to enhance their role in maintaining the material and technical resources of consumers.

In analyzing the state of material and technical resource supply into the republic, one must note first of all that overall the introduction of the indicator has produced positive results--deliveries of cement, slate, rolled roofing materials, linoleum, tractors, pumps, metal-cutting and abrasive tools and many other types of products have been made at 100 percent of plan or better. As a result, Uzbekistan in 1983 successfully fulfilled its plan for the sale of products. At the same time one must acknowledge that a number of enterprises were unable to fully sustain work tempo because plans for deliveries to republics in some areas were not fulfilled. As a result, in 1983 the republic received about 50,000 tons less ferrous metal rolled stock, 10,000 tons less iron and ferroalloys, 300,000 cm less industrial lumber, 500,000 cm less sawed lumber, etc. than planned. This was reflected in the fulfillment of the UzSSR plan for economic and social development--153 industrial enterprises, 11 percent of the total, for these reasons as well as other objective reasons failed to fulfill their plans for the sale and delivery of industrial products.

After the CPSU Central Committee and the USSR Council of Ministers issued its resolution on strengthening supply discipline and as a result of the implementing of related measures, some improvement was noted. The number of capital providers and materials suppliers who fulfill over a long period of time contractual obligations has increased, as has the volume of products sold reflecting signed contracts and orders to be filled. However, practice shows that there has yet to be basic improvement in strengthening contract discipline. Many enterprises still default on delivery of the most important types of products. There remains a negative tendency not to honor obligations in the process of fulfilling and over-fulfilling the plan for the overall volume of sales. In 1983, for example, the majority of enterprises of the machine building ministries did not fulfill their obligations. At the same time, many of the enterprises had discrepancies between amounts delivered by contract order and plan fulfillment for overall volume of sales of 10 or more percent.

There is no one simple reason for this. It has to do with the fact that the supply process itself is extraordinarily complex with many operations. They include the following: the appearance of consumer orders for material and technical resources, the study of the production possibilities for output of specific types of products, overload production capacity of the manufacturer, the development of delivery plans, bringing these plans to the attention of interested organizations, concluding of contracts, organizing product deliveries in accordance with contracts and control over contract implementation.

The wide variety of operations in the supply process testifies to the fact that shipment results depend on many factors which can be classified according to various indicators. In many cases so called external factors which do not

depend on the supplier influence very substantively supply plan fulfillment results. These factors depend on the consumer of the products; supply and sales organizations that freeze shipments; transportation organizations that provide product manufacturers with material and technical resources. Establishing the degree to which external factors influence supply plan fulfillment results makes it possible to determine more exactly their role in supplying manufacturers and at the same time to utilize more fully internal resources. In addition, it makes it possible to anticipate and eliminate those factors which have a negative impact on supply as a whole.

However, when one analyzes the fulfillment of supply plans, one must give special attention to examining internal factors that depend on the actions of the manufacturers themselves. For example, the elimination of their debt liability, control over the observance of timetables according to which suppliers present specifications, order documentation, etc.

The exposure and elimination of both internal and external factors which negatively impact on supply will provide a great impetus to the efficient use of material resources and their economy and at the same time will speed the creation of the necessary basis for a broad-based, large-scale experiment.

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## ECONOMIC MODELING AND COMPUTER TECHNOLOGY APPLICATION

## TECHNIQUES OF MODELING MANAGEMENT STRUCTURES DESCRIBED

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/Article by A. R. Leybkind: "Problems of Formation of Organizational Structures of Management of Production and Economic Complexes"/

/Text/ The article proposes an approach to the formation of organizational structures of management of production and economic complexes connecting the elements of the systems approach to the synthesis of these structures with the use of mathematical modeling. Two stages in the procedure are described: singling out of objects of management and formation of the administrative apparatus. Principal attention is paid to the construction of conceptual models and their formalization.

Improvement in organizational structures at all the levels of management is the most important task in the management of the modern socialist economy. At the same time, streamlining the organizational structures of production and economic complexes, with which, first of all, production and industrial associations of various types should be classified, is of special significance.

The significant number of factors, which should be taken into consideration during the formation of organizational structures, and the need to take into account and process a large volume of diverse data bring about the use, along with an informative analysis and expert evaluations, of mathematical methods and models.

The approach set forth below connects the elements of the systems approach to the synthesis of organizational structures /12/ with the use of mathematical modeling. The realization of this approach presupposes two stages--singling out objects of management and constructing the administrative apparatus--and is based on unified methodological premises.

The content of the problem of construction of organizational structures of management of production and economic complexes largely depends on what is invested in the concept of organizational structures. Many of its interpretations exist. According to them the problems of construction of organizational structures are reduced only to the establishment of joint subordination of subdivisions, or to the solution of quite a wide range of problems including, for

example, the determination of technological schemes of management /1-3/. The task of synthesis of organizational structures is the most important in the set of organizational planning problems. However, it cannot include the solution of all these matters. Otherwise, the object of investigation is lost and serious complications with the development and use of appropriate methods arise /4/.

A production and economic complex can be represented as a system consisting, in turn, of two groups of systems, that is, production systems engaged in the output of intermediary or end products of production and economic complexes and management systems. The latter include means of management, whose key elements are specialists, their groups and subdivisions of the organ of management (subsequently, on the basis of the goals of the study, only these elements will be examined). A certain combination of the above-mentioned elements, which can be singled out in accordance with their participation in the management of the same systems from the production system of production and economic complexes as a whole, corresponds to each production system. Thus, a link encompassing means participating in the management of a system corresponds to it. We will call the means unified by each of these links the system of production management and the problem facing it, the sphere of activity of this system.

Production systems can be singled out by different methods depending, in particular, on the adopted scheme of management. Enterprises, groups of enterprises, production facilities, which are units of identical production facilities distributed over different enterprises, and so forth can be considered these systems.

By the organizational structure of the system of management of a production and economic complex we mean the combination of links unifying the means that ensure an all-around management of the complex and its parts. Hence its construction presupposes singling out objects of management of the administrative apparatus. At the same time, since the objects of management of the subdivisions of the administrative apparatus can differ significantly and not be limited to production systems alone, as well as owing to the fact that the activity and composition of subdivisions are predetermined to a significant extent by the adopted technological schemes of functioning of the administrative apparatus, it is advisable to determine its organizational structure by means of the problems being solved.

A set of means of management of the administrative apparatus participate in the solution of the problem of an all-around management of the production system. The problem facing the administrative apparatus is specified through a set of subproblems. In turn, a certain combination of means ensuring the solution of every problem corresponds to it. Thus, it is possible to speak of a structure of means of management, which is determined by interlinks of elements connected with the participation in the solution of the same subproblems. We will call the indicated structure the organizational structure of the administrative apparatus. In general, the multilevel nature of subdivision of the problem of the administrative apparatus presupposes a hierarchy of its organizational structure.



Each of the links unifies a group of certain means of management. We will call it the subsystem of the administrative apparatus and the problem facing it, its sphere of activity. The existence of a certain subsystem can be consolidated formally (office or department), but it also may not have an official status, or have the status of a temporary formation. The set of specific subproblems of the administrative apparatus can be divided into two categories. The solution of problems of the first category is the direct realization of the process of management corresponding to the function of the administrative apparatus. These are basic problems and systems. Problems of the second category are connected with support for the process of functioning of the administrative apparatus and production and economic complexes and its improvement. We will call these problems and the systems solving them support ones. In general, the basic system can include several support systems. The organizational structures of the administrative apparatus and systems of management of production and economic complexes form a complete organizational structure of management (hereinafter, organizational structures of management of production and economic complexes).

The singling out of objects of management is understood as a hierarchical decomposition of the set of elements of production and economic complexes, whose internal structure within the framework of realization of this procedure is not taken into consideration. Enterprises in operation, being put into operation and planned for establishment can be considered objects of structurization. The selection of enterprises in operation as objects of structurization makes it possible to uncover an efficient organizational structure of the system of management of a production and economic complex at a given moment and of enterprises in operation and being put into operation, for the near future. The results of structurization of all the mentioned objects can help not only in the development of an efficient organizational structure for the distant future, but also in the preparation of recommendations for the reconstruction and expansion of existing enterprises.

Production in the conceptual model of synthesis of organizational structures of management of production and economic complexes is represented as an element characterized by three groups of parameters describing the following: "output"--developed products, as well as the waste that occurs; operator for converting "input" into "output" (operator)--means of labor of specialists of various occupations and skills and methods of their unification and interaction in the process of development of products; "input"--resources, including semifinished products used as raw materials for producing products or ensuring the functioning of operator elements. An enterprise considered a group of interconnected production facilities can be similarly represented in the model.

The organizational structure of the system of management of a production and economic complex should ensure the best conditions for coordinating the development and functioning of the production facilities and enterprises forming part of it. Such conditions are created when problems of management of groups of enterprises, whose activity is mutually depended to the greatest extent, are solved within the framework of successively subordinated administrative apparatus.<sup>1</sup> The need for a coordinated development of enterprises and production facilities is generated by a group of factors. We believe that each of these factors determines a certain link in the structured set of elements of a production and economic complex. Thus, the problem of describing and evaluating links, which can be used subsequently for grouping these elements, arises.

The indicated links can be classified according to three criteria, which make it possible to give quite a full description necessary for their quantitative evaluation.<sup>2</sup> In accordance with the nature of determining factors the following can be singled out: links determined by production and technological characteristics and the specific nature of natural processes affecting the development of production facilities, as well as links determined by the characteristics of consumption of products outside production and economic complexes (in particular, they include links determined by nonproduction consumption). With respect to a wider production and economic system including a given one internal and external links can be singled out. The latter include links determined by the characteristics of consumption of products of a production and economic complex outside its boundaries. Depending on the constraints on parameters describing production facilities and enterprises links can be divided into four groups: related to input, operator and output and links of the type of "input-output" or supplier-consumer of products (A-, B-, C- and D-links respectively).

#### Basic Links in a Production and Economic Complex

- Related to the use of an identical resource (product) produced in a production and economic complex (A<sub>1</sub>) and outside a production and economic complex (A<sub>2</sub>)
- Related to the use of interchangeable resources produced in a production and economic complex (A<sub>3</sub>) and outside a production and economic complex (A<sub>4</sub>)
- Related to the overall nature of products produced and used in a production and economic complex (A<sub>5</sub>)
- Related to the overall nature of products produced outside a production and economic complex, but used in a production and economic complex (A<sub>6</sub>)
- Related to the community of the composition and structure of fixed productive capital (B<sub>1</sub>)
- Related to the community of resources used as operator elements (B<sub>2</sub>)
- Related to the identical nature of products produced and consumed in a production and economic complex (C<sub>1</sub>)
- Related to the identical nature of produced products consumed outside a production and economic complex (C<sub>2</sub>)
- Related to the production of interchangeable resources consumed in a production and economic complex (C<sub>3</sub>)
- Related to the production of interchangeable resources consumed outside a production and economic complex (C<sub>4</sub>)
- Related to the production of mutually supplemented products consumed in a production and economic complex (C<sub>5</sub>) and outside a production and economic complex (C<sub>6</sub>)
- Supplier-consumer of products (D<sub>1</sub>)
- Related to the completeness of utilized resources (A<sub>7</sub>)
- Related to the effect of the environment on identical parameters (C<sub>7</sub>)

Basic links permit a further differentiation according to other criteria. For example, links of  $C_4$  and  $C_6$  types depending on the nature of consumption can be divided into those determined by the specific nature of production and non-production consumption, which is important during the formation of the organizational structure of the administrative apparatus; links of the  $D_1$  type, into links related to deliveries of operator elements and deliveries of production waste and products for current production consumption.

The selection of a specific composition of links during the structurization of production and economic complexes largely depends on a number of conditions, in particular the specific nature of a particular production and economic complex; reliability of used information (a link related to the use of a certain resource can be represented as a group of links related to the application of its different types); problems solved in the process of structurization (these can be problems of construction of organizational structures on the basis of the formed links and the state of a production and economic complex during the immediate or more distant future); constraints determined by the existing economic mechanism (some problems of coordination can be solved in a decentralized manner as a result of local interactions of the elements of a production and economic complex or, conversely, in a centralized manner within the framework of the production and economic system including it). For example, consideration of the link of the  $C_7$  type is important during the structurization of enterprises put into operation. Links of the  $B_2$  type are important during the structurization of production and economic complexes belonging to an agroindustrial complex (for example, the same land areas can be used both for the production of industrial crops and for the development of the feed base of animal husbandry). Consideration of links related to deliveries of natural resources used as operator elements (for example, reclamation), which are absent among the elements of a production and economic complex in machine building, is also important for a production and economic complex of this type. It is important that links have a different stability. Some are determined during the development of long- and average-term plans (for current deliveries of products, for example), while others themselves largely determine the plan indicators of a production and economic complex. Hence their different role in the improvement in the organizational structure of the system of management of a production and economic complex, as well as the stability of the organizational structure itself. Therefore, an evaluation of the stability of links is the most important factor determining the periodicity of measures for an analysis of the efficiency of the organizational structure and its improvement, as well as the need to coordinate these measures with the process of plan preparation.

During the construction of the organizational structure of the system of management of a production and economic complex of importance is the solution of the problem of consideration of goals, toward the attainment of which its activity should be directed. With respect to the problem of formation of intersectorial national economic complexes it is shown in [5] that the direct participation of sectors in the attainment of identical goals does not presuppose the need for the coordination of their development. In cases when such a coordination is necessary, it is determined by the existence of links related to the interchangeability or intersupplementation of the produced products among sectors. However, the singling out of goal-oriented intersectorial national

economic complexes--objects of planning--is necessitated by the creation of the best conditions for an evaluation and comparison of the degree of urgency of needs and an efficient distribution of resources among sectors producing products for final nonproduction consumption.

Although a conceptual model of a production and economic complex different from /5/ is constructed in this work, the community of the adopted premises makes similar statements correct in this case. Thus, goals cannot be a complex forming factor during the formation of the organizational structure of the system of management of a production and economic complex. In exceptional cases for major production and economic complexes, which are the only producers of a certain group of products of final nonproduction consumption, the singling out of enterprises and production facilities encompassed by links related to participation in the attainment of identical goals as objects of planning can be useful during an evaluation of the prospects for the development of certain production facilities and the distribution of appropriate resources.<sup>3</sup> It should, however, be noted that, in contrast to the above-cited links, these links are of a subjective nature in the sense that they are determined by the adopted planning schemes. At the same time, the structurization of goals plays an important role in the procedure of formation of spheres of activity of the subdivisions of the administrative apparatus /1 and 2/.

Thus, depending on the goals of construction of organizational structures, enterprises in operation, being put into operation and planned for establishment, as well as the sets of links encompassing them corresponding to the specific nature of the solved problem, which are coordinated within the framework of the system of management of a production and economic complex, should be considered the conceptual model of this complex in structurization procedures.

The construction of the organizational structure of the administrative apparatus presupposes as initial premises an analysis of the goals of its functioning determined within the framework of a broader system including a given production and economic complex,<sup>4</sup> conditions of economic activity and the combination of the links of its elements. One part of the indicated goals is of a sufficiently stable nature and is specified in the set of the functions and problems of management. The other is determined by specific problems, which the administrative apparatus should solve during the forthcoming period. Along with the basic problems determined by the functional purpose of a production and economic complex the administrative apparatus solves problems necessary to ensure the development and functioning of the complex as a whole, its system of management and the administrative apparatus. The first can include subdivisions engaged in the management of personnel training and scientific research institutes; the second, such subdivisions as departments of scientific organization of labor. Goals are only some of the factors affecting the composition and interlink of problems. The other two are the system of links of the elements of a production and economic complex and the conditions of economic activity. Every link presupposes the solution of the appropriate problem of coordination of the development and functioning of production facilities and enterprises. Thus, a link related to the community of the composition and structure of fixed productive capital presupposes the solution of problems concerning the search for an efficient strategy of distribution and redistribution of orders for the production of products and solution of problems of implementation of a unified technical policy. During the



structurization of the system of management all the links of the elements of a production and economic complex are taken into consideration and during the structurization of the administrative apparatus, only those that are directly coordinated by it. The problems of coordination of these links are solved in different aspects at different stages of the management cycle determined by the conditions of economic activity.

We will call the problems serving as the basis for the construction of the organizational structure of the administrative apparatus operational. Permanent and temporary problems should be singled out among them. The later include, in particular, problems of development and management of the realization of goal-oriented overall programs. In addition to operational problems, the administrative apparatus can solve problems, whose appearance it is difficult or impossible to foresee. The organizational structure of the administrative apparatus is constructed for the solution of problems known beforehand (the need for the solution of which is beyond any doubts or has a big probability). Newly arising problems, which do not need a significant reconstruction of the organizational structure, are solved either in subdivisions corresponding to their specialization, or within the framework of temporary organizational forms (in commissions, working groups and so forth).

The scheme of formation of operational problems can be represented as a systematic decomposition of the goals of the administrative apparatus: goals--functions--aggregated problems--problems--operational problems. The procedure of subdividing a goal into subgoals is of a heuristic nature. Although the rules of construction of goal trees exist, they are such that they permit a wide range both in their interpretation and use /6/. Therefore, it is advisable to also lean on the standard goal trees of production and economic complexes presented, for example, in /7/ and 8/. The transition from goals to functions and aggregated problems and their differentiation make it possible to single out not only less important problems, but the criteria of their further subdivision as well. In particular, the differentiation of management functions can be made according to the stages of the management cycle (forecasting, planning, organization, operations management, accounting, control and analysis); objects of management--elements of production and economic complexes; aspects of management (production, finances, labor, personnel, supply and so forth). With such a differentiation the results of the solution of problems can be determined. However, they do not make it possible to build a network of information links of problems necessary for subsequent structurization. Thus, their more complete description is necessary. It is advisable to represent them as the elements of production and economic complexes. We will single out three groups of parameters describing problems: "input"--data used during the formation of output; "output"--data, which are the result of the solution of a problem; operator for converting "input" into "output"--combination of methods and means of solving a problem. Depending on the specific nature and characteristics of the activity of the administrative apparatus problems can be described more or less accurately. For example, initial information and the output of a problem are known. However, the structure and composition of the operator are unknown, or it can represent one of the set of possible ones. Output and operator are known, but there is no exhaustive information on the data that should be used during the solution of a problem.

Problems can occupy a different position with respect to each other. Five situations are possible: a) input of one problem is the output of another; b) one of the problems is a part (component) of another in the sense that it corresponds to one of the stages in the conversion of its input into output, that is, it serves as its subproblem; c) outputs of several problems are formed through the output of one problem; d) outputs of several problems form the input of one problem; e) inputs and outputs of two problems are not in a)-d) ratios, that is, problems are not directly connected. The coordination of the solution of problems is the central problem arising in the process of functioning of the administrative apparatus. Depending on the correlation of problems it is possible to single out coordination with respect to output, input and successive stages of solution. The need for the realization of the enumerated operations of coordination is due to the fact that management problems are characterized by a certain set of variants of the values of parameters describing their outputs or (and) inputs. In addition to the indicated ones, it is possible to single out coordination with respect to the time of solution of problems, the conditions for which are ensured within the framework of the procedures of synthesis of organizational structures during the introduction of constraints on the loading of the personnel of the administrative apparatus, as well as coordination with respect to the operator. The latter presupposes the transfer of certain problems for solution by the same groups of specialists. Usually, these are problems requiring special knowledge, whose direct coordination cannot always be made in a full volume by managers. Problems of a research nature, forecasting and so forth can be included in them in the administrative apparatus of a production and economic complex.

By a link of problems we mean a factor giving rise to the need for their coordination. The organizational structure of the administrative apparatus should possess properties ensuring the best conditions for the coordination of the solution of problems. The most important of them lies in the fact that the most closely interconnected problems should be concentrated in every system. In this case, owing to the closing of processes of coordination within the framework of individual subsystems, the coordination of the results of solution of problems, distribution of resources and an efficient loading of managers at all levels is facilitated. We will call the spheres of activity corresponding to such systems efficient. For their construction it is necessary to single out a set of operational problems and their interlinks. The level of aggregation of operational problems is of special importance. It is necessary to single out the criteria of the upper and lower level of aggregation. It is natural to consider the correspondence of the labor intensiveness of solution of operational problems to the average capabilities of specialists the criterion of the upper level. When determining the criterion of the lower level, it is necessary to proceed from the above-mentioned general criterion of an efficient organizational structure. A relative compactness of efficient spheres of activity is the most general requirement during the construction of efficient organizational structures. It should be concretized in criteria and properties, which can be different for different administrative apparatus, their subsystems and categories of problems.

In contrast to the detailing of goals quite a strict procedure can be proposed for the operation of disaggregation of problems. The output of a problem can be represented as the following: a) a set of indicators (documents) or solutions; b) a set of less general concepts uncovering the concept entering the

description of output. Then we will call the singling out of pertinent problems a horizontal disaggregation of type a and b respectively. Along with this a vertical disaggregation representing the singling out of subproblems corresponding to stages in the solution of a problem is also possible. The indicated types of disaggregation often also presuppose the disaggregation of the operator (horizontal and vertical). Disaggregation operations "from output" should be performed in the following sequence: a horizontal disaggregation of type b; a horizontal disaggregation of type a; a vertical disaggregation /9/. The procedure of disaggregation ends when the problems obtained begin to meet the above-mentioned criteria.

It should, however, be noted that, in practice, the singling out of a set of operational problems is often associated with considerable difficulties. Therefore, disaggregation operations should be completed when the proposed effect of further detailing is smaller than the expenditure of time and resources, which often are quite a strict limiting factor in structurization procedures. On the basis of this, when the conceptual model of the administrative apparatus is constructed, problems of such a level of aggregation, which can be obtained under the given specific conditions of synthesis of its organizational structure, will be meant by operational problems. Their set serves as the basis for the procedure of structurization, in the course of which groups of the most closely connected problems are singled out (according to links generating the need for the coordination of their solution), each of which is considered the potential sphere of activity of a specific subsystem of the administrative apparatus.

In accordance with the above-stated the conceptual model of quite a broad category of organizations can be represented as a set of problems, at which, in general, links of five types are given, that is, related to input, output, operator, "input-output" and time of solution. For organizations (and their subdivisions) different in the nature of their activity within the framework of different ideas of the most efficient ways of constructing organizational structures different links can be taken into consideration in structurization procedures. For example, when matrix organizational structures are constructed, usually links related to output and the operator are taken into consideration. Spheres of activity of subdivisions solving interlinked problems are singled out in accordance with the former and of subdivisions unifying various problems, whose solution requires the participation of specialists in a certain field, in accordance with the latter.

In the procedures of synthesis of the administrative apparatus of a production and economic complex, owing to the specific nature of its activity, links of problems related to output are the most important links taken into account. Coordination with respect to input seems superfluous. In fact, inputs of problems are formed through outputs of problems solved previously in accordance with the technological schemes of management and data entering from sources external with respect to the administrative apparatus. At the same time, different data cannot be "issued," for example, at the inputs of two problems, during the solution of which results forming the output of the third problem are used (we do not consider cases of errors in the information system). Nor is it necessary to coordinate "input-output" links. Workers of the administrative apparatus "specialize" in different objects and aspects of management,

each of which requires a profound knowledge of the essence of the matter. An evaluation and correction of the results of solution of problems requiring the application of special methods are also made by them. Therefore, the singling out of subsystems on the basis of links of problems related to the operator is advisable only in a limited number of cases. With respect to the link of problems related to output, the picture here is different. If within the framework of technological schemes of management a coordination of the solutions of groups of problems is envisaged, it is obvious that it will be made regardless of the subdivision in which these problems are solved. The fact that the chosen alternative can depend significantly on the subdivision in which it is determined is another matter. At the same time, the indicated schemes are an information model reflecting interlinks in the object of management, that is, the production and economic complex, between it and other complexes, and among different organs of management and systems. Being a model, they do not reflect all such interlinks. Hence the possibility of making decisions coordinated within the framework of technological schemes, but not taking into consideration all the real interlinks of production and economic complexes. The incomplete description of the object of management can be overcome, in particular during the consideration of links and factors not fixed by technological schemes. The composition and evaluation of these factors and links depend on the knowledge and point of view of the workers of the administrative apparatus. Hence this kind of direction in overcoming the incomplete description of a production and economic complex is more effective to the extent that this point of view presupposes the coverage of the entire set of problems connected with a given one, as well as projects and processes, whose development and functioning are predetermined by the decisions made. Thus, the general conceptual model of the administrative apparatus of a production and economic complex in the procedures of synthesis of organizational structures should be viewed as a set of operational problems, at which their links related to output are given. Links related to the conversion operator can be given for a number of these problems. In some procedures the model can be expanded by singling out links related to the time of problem solution. If the components of a certain aggregated problem are relatively isolated from the subproblems of others, procedures of disaggregation and structurization can be carried out autonomously.

Some problems of formalization of conceptual models of synthesis of organizational structures of management of production and economic complexes. During the changeover from conceptual to mathematical models and their analysis the following problems are singled out: 1) construction of formal analogs of the elements of production and economic complexes and problems solved in the administrative apparatus; 2) formalization of ideas on their interlink; 3) selection of constraints on various parameters of objects of management and organizational structures of the administrative apparatus and criteria and properties of efficient spheres of activity; 4) selection of interlink coefficients of elements of the structurized set and algorithms of structurization and interpretation and analysis of the results of calculations within the framework of the formalized procedure of synthesis of organizational structures. During the examination of the first two problems the following situations can be singled out.



a) Evaluations of interlinks of the elements of the structurized set exist. In this case their formal analogs should not be constructed. Similar evaluations can be obtained during the study of the statutes on subdivisions and official instructions, surveys and polling, investigation of documentary and material flows, links of elements of production and economic complexes and so forth.

b) Evaluations of interlinks do not exist. However, there are ideas of the criteria, which must be taken into consideration during their definition. In this case it is necessary to construct formal analogs of elements of the structurized set. Let us assume that during an evaluation of the links of elements of the  $A = \{a_i\}_{i=1}^n$  set  $n$  criteria are taken into consideration. Then every element can be described by the set of parameters  $a_i = (a_{i1}, \dots, a_{in})$ , reflecting the presence or absence of the corresponding criteria, the intensity of their manifestation or the probability of their presence.<sup>5</sup> The function of similarity, proximity and interlink of the pair of elements  $\rho(a_i, a_j)$ , whose values are utilized later as the basic initial data in the algorithms of structurization, can be introduced on the  $A$  set. The set of parameters  $\bar{a}_i = (a_{i1}, \dots, a_{in})$  can also be utilized in procedures. They are applied not for the evaluation of interlinks, but for the formation and check of various constraints on the singled out spheres of activity. The labor intensiveness of problem solution, the number of workers at a production facility or enterprise, volumes of production of various types of products and so forth can appear as such parameters.

We will examine the problems of construction of analogs of the elements of the structurized set. We will begin from the set of operational problems. According to the conceptual model, during the structurization of problems it is necessary to evaluate their links related to "output." It follows from this that the formal analogs of problems should contain information on the characteristics that determine the need for the performance of the appropriate operations related to coordination. The criteria that can be taken into consideration during an evaluation of the links of problems related to output can be divided into two types, that is, those directly reflecting their information interlinks and characterizing affiliation with such groups, in relation to which it is known in advance that the solutions of the problems forming part of them should be coordinated. We will dwell on information interlinks. The links of management problems concerning the adopted decisions are determined by the interlinks of managed objects and processes. The latter should be reflected in similar data used for decision making and the more uniform the information used during the elaboration of decisions, the more closely they will be connected. For example, the interlinks of enterprises forming part of a production and economic complex connected with the use of identical resources and current deliveries generate the need for the coordination of the solution of problems related to the development of their plans and operative management of production. In turn the solution of each of these problems requires information on stocks and deliveries of resources, variants of development of related industries and so forth. Thus, links in a production and economic complex are reflected in the similarity of information necessary for the solution of management problems. Hence the interdependence of solutions will be expressed in the uniformity of data necessary for their development and the grouping of problems based on an evaluation of the similarity of the appropriate groups of data will lead to the singling out of spheres of activity, in which the most closely interconnected solutions are concentrated.<sup>6</sup>

Thus, for an evaluation of the links of problems related to output their input information should also be taken into consideration. In accordance with this formal analogs of problems can also be represented. Let us assume that the sphere of activity of the administrative apparatus is represented in the form of  $n$  problems, during the solution of which  $m$  indicators or documents are used. Then every  $i$  problem ( $i = \overline{1, n}$ ) in the simplest case can be described by the set  $a_i = (a_i^1, \dots, a_i^{n+m+1}, \dots, a_i^{n+m})$ , where  $a_i^j$  corresponds to the indicator or document ( $n+1 \leq j \leq n+m$ ), or to the problem ( $1 \leq j \leq n$ ) and assumes the value 1 and 0 depending on whether the appropriate indicator (document) or result of solution of the  $j$  problem is used during the solution of a given one or not. According to the definition  $a_i^i = 1$ . All things being equal, an evaluation of the interlink of problems will reflect their real interlink to the extent that problems are disaggregated and the description of their inputs is detailed. The absence of detailed technological schemes of management can lead to palliative solutions, that is, application of the indicated method of formalization during the structurization of only individual previously singled out spheres of activity, utilization of cruder methods of description of "input" and so forth.

The formalization of problems by means of criteria characterizing their affiliation with groups, about which it is known that the problems entering them should be coordinated, is applied during the realization of a limited range of procedures of structurization. They are directed toward the singling out of spheres of activity of newly established subdivisions oriented, as a rule, toward the solution of specific problems of development of production and economic complexes. If one such problem is singled out, the formation of the sphere of activity does not present special complications: The set of problems forming this sphere is singled out by experts and then is refined during the construction of technological schemes of management and structurization of problems related to their information links. If there is a set of problems and there are problems, whose "outputs" predetermine the directions of the solution of several of them, the formation of spheres of activity is complicated. It is obvious that, other things being equal, the "outputs" of problems predetermining the solution of several problems should be coordinated. At the first stage of structurization it is advisable to describe the appropriate problems with the sets  $a_i = (a_i^1, \dots, a_i^k)$ , where  $a_i^j = 1$  if the solution of the  $i$  problem predetermines the solution of the  $j$  problem and  $a_i^j = 0$  otherwise ( $i = \overline{1, l}, j = \overline{1, k}$ ) and after the singling out of the contours of spheres of activity and construction of technological schemes to change over to structurization on the basis of the information links of problems.

We will now dwell on the elements of production and economic complexes. According to the nature of the criteria describing them it is possible to single out two variants of formalization. In the first criteria give an idea of the position of elements in production and economic complexes. For example, during an evaluation of links of the  $B_1$  type each parameter of the set  $a$  describes the presence and volumes of fixed capital of a certain type. In the second the parameters of this set evaluate the relationship of the elements of production and economic complexes to problems solved in the administrative apparatus. For now one example of such a formalization, which is very effective during the singling out of the contours of spheres of activity of subsystems for the planning of intersectorial national economic complexes, is known [11]. Let us assume that  $m$  groups of interlinked elements of production and

economic complexes are singled out, where  $m = \sum_{i=1}^L m_i$ ,  $m_i$  is the number of

groups singled out during the consideration of the link of the  $i$  type and  $L$  is the number of links. The indicated groups of elements presuppose the solution of the problems of coordination of their development (one problem per group). Then the element of a production and economic complex is described by the set  $a_i = (a_i^1, \dots, a_i^m)$ , where  $a_i^q = 1$  if the  $i$  element of a production and economic complex is correlated with the  $q$ -problem (enters the  $q$  group) and  $a_i^q = 0$  otherwise. During the selection of the appropriate function  $\rho(a_i, a_j)$  elements of production and economic complexes presupposing the solution of the biggest number of problems related to the coordination of their development "are concentrated" in every sphere of activity. It should be stressed that the described method of formalization is used during the structurization of a production and economic complex based not on the evaluation of some one link among its elements, but on their integral link.

The problem of a formal description of the elements of a production and economic complex for an evaluation of their link according to the community of goals, in the attainment of which they participate, requires a special consideration. Such a description differs in no way from the presentation of problems through the criteria of their belonging to a group. However, the problem lies in the nature of such links. As indicated, the singling out of the elements of production and economic complexes participating in the realization of a certain goal can be carried out during the singling out of the spheres of activity of subsystems, which would coordinate the development of these elements for an all-around and efficient attainment of appropriate goal-oriented indicators. According to the very essence of this problem the exclusion of some element of a production and economic complex from the composition of the group is inadmissible. The fact that the participation of the same element in the attainment of several goals can lead to a division of the combination of management problems determining its development among various subdivisions is another matter.

The selection of link coefficients and structurization algorithms can be made by means of special methods consisting in the formulation and check of the requirements on them resulting directly from the content and conditions of solution of problems concerning the synthesis of organizational structures [12]. Among problems pertaining to the selection of coefficients the consideration of links of many types is important. Whereas during the structurization of problems all the evaluated links are of an information nature and such a problem does not arise, during the singling out of objects of management of production and economic complexes encompassed by different links not reduced to each other it acquires a special urgency. It is possible to single out three methods of such a consideration, the advisability and possibility of the application of which depends on the goals and conditions of solution of problems concerning the synthesis of the organizational structures of the system of management of production and economic complexes.

The first consist in a systematic consideration of various links. At the same time, groups of elements of production and economic complexes characterized by close links of some types are singled out at first. The further subdivision or unification of these groups is made during the consideration of

another type of link and so forth. At the same time, for various groups of elements evaluations of various types of links are often used as data for the first and subsequent subdivisions. The practical use of the indicated method according to its very nature is limited to situations, in which the number of such links is negligible (procedures known to us take two to four links into consideration).

The second presupposes an independent singling out of blocks of elements of production and economic complexes according to individual types of links, whose results are either used directly during structurization, or serve as the basis for the formation of the integral link coefficient applied later within the framework of the corresponding formalized procedure. At the same time, the following can be used: a) only the results obtained during the utilization of the integral criterion; b) also data on all the obtained subdivisions according to all types of links. The procedure of singling out intersectorial national economic complexes described in /11/ serves as an example for the case a). It utilizes the coefficient constructed for an evaluation of the link of sets  $a_i$  previously examined as an example of the formalization of the elements of a production and economic complex, in which parameters  $a_i$  describe the relationship of these elements to problems solved in the administrative apparatus. The procedure of singling out intersectorial complexes developed in /13/ is the example for the case b). It makes a hierarchical grouping of sectors according to a specific combination of links and then, after the norming of coefficients evaluating individual links, constructs an additive coefficient and carries out the structurization of sectors on the basis of its values.

In the third there is no preliminary singling out of blocks according to individual types of links and the links of many types are considered through the construction of evaluations of the "total force of links" either indirectly, or, for example, by summation with some weights of values calculated for different types of links. Such a method of consideration in a number of cases can lead to the fact that objects of management of production and economic complexes, along with enterprises encompassed by quite close links, "on the average," in all their combination will also include those characterized by a closer link with enterprises entering other objects. For uncovering such situations and correcting the composition of objects of management procedures of formation of blocks of elements of production and economic complexes according to individual types of links are useful.

On the basis of the characteristics of methods of consideration of links of many types, as well as an analysis of the practice of realization of appropriate procedures /13/, the second out of the described methods, with which data on the subdivision of the elements of production and economic complexes both according to individual types of links and according to the integral link coefficient are used, should be considered the most effective.

The problems of selecting constraints on various parameters of objects of management and organizational structures of the administrative apparatus and of criteria and properties of efficient spheres of activity are closely related to the matter of formation of requirements on structurization algorithms connected with information on the properties of the resultant subdivision.



The content and conditions of solution of problems concerning the synthesis of organizational structures determine the different ideas of the characteristics of the system of efficient spheres of activity. We will single out three situations. An exhaustive list of characteristics of individual efficient spheres of activity or (and) their system is known beforehand in the first. It is complete not in the sense that it determines all the parameters of organizational structures (although it can be such), but in the sense that any variant of organizational structures possessing these characteristics is considered effective. In the second situation such characteristics are unknown. Subdivisions of elements are found and their analysis gives additional information, which subsequently makes it possible either to single out efficient spheres of activity on the basis of informative considerations without an obvious assignment of their properties, or to obtain characteristics that would make it possible to solve problems concerning the synthesis of organizational structures in the first or third situation. Certain characteristics of efficient spheres of activity, which are definitively formed by means of informal operations, are known in the third situation.<sup>7</sup>

Among the characteristics of efficient spheres of activity and blocks of elements of the structurized set, on the basis of which they are constructed by means of informal operations, we will single out properties, constraints and functional qualities.<sup>8</sup> By properties we mean characteristics that unambiguously determine all or part of the parameters of efficient spheres of activity. In contrast to properties constraints allow a certain range of changes in these parameters. Indicators, whose extremization makes it possible to single out efficient spheres of activity, are meant by quality functionals. Their difference from properties lies in the fact that they do not obviously characterize the composition and features of these spheres. Each of the mentioned characteristics can pertain to individual spheres of activity and their system. They can also be the same for all levels and individual spheres of activity, or differ at every level and for every sphere and be expressed through link coefficients, parameters of the set  $\bar{a}_n$  and parameters describing the general characteristics of organizational structures (number of levels of subdivision, ranges of control and so forth).

From the point of view of the availability of information on the characteristics of efficient spheres of activity it is advisable to single out two basic mathematical formulations of the problem concerning the synthesis of organizational structures. The first presupposes the extremization of the quality functional of the system of spheres of activity with constraints on their composition. The second, the singling out of spheres of activity possessing the prescribed properties and (or) satisfying the appropriate constraints. The practical realization of the formulation of the first type is associated with two types of difficulties: nonlinearity and integrality of the corresponding extremal problems. As a rule, formulations of the second type make it possible to process more substantial data files and to obtain more accurate results. However, they also require more profound ideas of the properties of efficient spheres of activity. The use of one formulation or another during the solution of problems concerning the synthesis of organizational structures of management of production and economic complexes is determined by its specific content, as well as the nature of a formalized procedure of structuring.

#### FOOTNOTES

1. It is assumed that a given production and economic complex has already been singled out as the object of management during the decomposition of a larger production and economic system.
2. The classification presented is the further development of that presented in /5/.
3. The corresponding subdivisions are unnecessary if the comparison of the acuteness of the needs for the indicated products and the orders for their production are made by trade and consumer organizations.
4. The internal goals of the administrative apparatus formed under the effect of a set of factors, in particular the interests of individual specialists, their groups and subdivisions, should be distinguished from these goals.
5. The domain of definition  $a_{ij}$  and the meaning of values adopted by them are defined in each specific case. For example,  $a_{ij}=1$  can signify the existence of the criterion  $j$  at the  $i$  element and  $a_{ij}=0$ , its absence. The same values can show that the intensity of manifestation of the  $j$  criterion at the  $i$  element exceeds a certain threshold. For an evaluation of the relative importance of the consideration of parameters weights of criteria can also be given.
6. At the same time, problems of streamlining information flows are also solved /10/.
7. The following serve as examples: for the first situation--the problem of formation of objects of management of production and economic complexes presented in /14/, for the second--the procedure developed in /13/ and for the third--the procedure of formation of efficient spheres of activity of subdivisions of the organization realizing measures of a social nature described in /9/.
8. Since for a subsequent presentation the difference between efficient spheres of activity and the indicated blocks is immaterial, subsequently we will talk only about efficient spheres of activity.

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LENINGRAD PARTY OFFICIAL REVIEWS INTENSIFICATION PROGRAM

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/Article by B. Ul'yanov, head of the economic department at the Leningrad Oblast Party Committee: "Program for Economic Intensification in Leningrad and Leningrad Oblast"/

/Text/ The CPSU Central Committee examined and approved the experience in the work carried out by the Leningrad Oblast Party Committee on economic intensification on the basis of the acceleration of scientific and technical progress. The adopted decree on this matter notes the importance of the initiative of the oblast party organization in the development of the territorial and sectorial "Intensification-90" Program aimed at a significant increase in the efficiency of public production during the 12th Five-Year Plan through a better utilization of the existing production and scientific-technical potential of all national economic sectors in Leningrad and the oblast, overall mechanization and automation and an extensive utilization of new equipment and advanced technological processes.

The task of sharply raising labor productivity during the 12th Five-Year Plan was set as the top-priority task of the "Intensification-90" Program. In particular, by 1990 plans are made to attain its average annual rate of no less than 4 percent in industry and of no less than 5 percent in machine building, to lower the share of manual labor from 37 to 27 percent during the 5-year period and to reduce the production costs of many products by 7 to 8 percent.

The transition to a primarily intensive path of development is an ever more characteristic feature for the Leningrad economy at the present stage. During the current five-year plan this is manifested, in particular, in ensuring the entire increase in industrial output through a rise in labor productivity. Two-thirds of this is attained through an accelerated introduction of measures for scientific and technical progress. The allocation of the bulk of capital investments for retooling and reconstruction and a constant improvement in the technological structure of fixed capital through a systematic increase of the active part in its structure are the other components of intensification.

From the beginning of the 11th Five-Year Plan fixed capital worth more than 3 billion rubles was introduced into industry, about one-half of it, into machine building and instrument making. During that period about 1,000 shops,

sections and production facilities were overall mechanized and automated and 1,290 mechanized and automated lines, 1,615 manipulators and robots and 1,422 machine tools with numerical program control were introduced. This made it possible to increase the capital-labor ratio by 22.9 percent.

During 3 years of the five-year plan the State Badge of Quality was awarded to more than 4,400 articles. The production of about 7,500 new machines, apparatus and other articles, many of which in their technical and economic indicators were not inferior to the best world models, was mastered.

The number of associations in industry increased by almost 10 percent during the current 5-year period. At present 170 scientific-production and production associations and combines operate in Leningrad and the oblast. They include more than 500 enterprises and 150 scientific research institutes and design offices, which account for about 70 percent of the total volume of industrial production and about one-half of the volume of scientific research and experimental design studies.

Unfortunately, plans for scientific and technical development, being still a separate part of the national economic plan, at times do not ensure a close interconnection with final qualitative and quantitative indicators. Often this happens, because many ministries and departments frequently try to solve on their own complex problems of a pronounced and intersectorial nature.

In the system of measures for the further intensification of public production the most important role belongs to plans for an overall economic and social development of Leningrad and the oblast, whose elaboration originated during the 9th Five-Year Plan. They make it possible to optimally combine sectorial and territorial interests and to ensure a greater proportionality and balance of the development of enterprises and organizations, which pertain to more than 150 ministries and departments, with existing material and labor resources and capacities of construction organizations. Apparently, it is sufficient to note that during 4 years of the current five-year plan alone it was possible to reduce, as compared with the initial requisitions of ministries, the planned number of workers in Leningrad and the oblast by more than 200,000 and, at the same time, all planned assignments were fulfilled successfully.

Improving the planning of overall economic and social development, party, Soviet and economic bodies carried out significant work on the determination of effective ways of accelerating scientific and technical progress in all the sectors of the Leningrad economy, making it possible to utilize with the greatest efficiency the created powerful production potential for the accomplishment of statewide tasks.

Extensive work on the reorganization of planning bodies and their reinforcement with highly skilled cadres of specialists was done. Economic and mathematical methods, scientific forecasting and a variance of solutions firmly entered the planning practice.

The decision on the preparation of a unified master plan for the development of Leningrad and Leningrad Oblast for the period until the year 2005 adopted last year is of fundamental importance for the further increase in the efficiency of territorial planning and creation of a scientifically substantiated

system of planning documents regulating the region's social and economic development. The formation of its technical and economic principles is being completed at this moment and by the end of 1985 all this work should be finished completely. It is also considered necessary to change over to the formation of five-year, as well as annual, plans for the overall economic and social development of the entire region, which will begin to be formed in 1986 and become part of the country's pertinent state plans.

The territorial and sectorial system, which determines the overall economic and social development of Leningrad and the oblast, includes the following:

a regional overall program for scientific and technical progress for 20 years (for 5-year periods). For the immediate five-year plan the set of assignments and measures for the region's scientific and technical progress was formed as an independent territorial and sectorial program for economic intensification on the basis of an accelerated introduction of scientific and technical achievements into the national economy ("Intensification-90");

a master plan for the development of the city and oblast for 20 years;

a territorial scheme for the development and distribution of productive forces for 15 years (for 5-year periods);

regional goal-oriented programs; five-year and annual plans for overall economic and social development.

Factors complicating the economic development of Leningrad and the oblast operate to an ever greater extent during the 1980's. The sharply increased weightiness of every percent of rise in production volumes cannot fail to affect this. However, in our opinion, the following are the main and decisive factors: First, the demographic situation, which is more complex in this region than throughout the country. For example, in 1983 there was an actual reduction of 0.15 percent in the size of the industrial personnel engaged in industry. Second, the existing structure of the Leningrad industry, in which machine building and metalworking predominate, is determined by higher labor expenditures per unit of output than in other sectors. Third, the proportions in the formation of the allocations of capital investments are not quite efficient. The substantial demands by ministries in the part of expansion and new construction directed only toward an increase in fixed capital and creation of additional work places without taking into consideration the real demographic situation, as a rule, do not always ensure a qualitative improvement in existing capital and do not have a significant effect on an acceleration of the rates of withdrawal of worn out equipment.

Economic intensification in the region is possible on condition that fundamentally new scientific-technical, organizational, design and technological solutions creating objective possibilities for a sharp increase in labor productivity are developed and introduced into all the sectors of the national economy. Leningrad science plays an important role in the solution of these problems.

It represents more than 400 scientific research, planning and design organizations, scientific institutions of the Academy of Sciences and higher educational institutions, in which more than 360,000 people are employed. They include

more than 4,300 doctors and 38,000 candidates of sciences. In the last few years Leningrad scientists have successfully solved a number of fundamental problems concerning the further development of atomic physics and electronics, power engineering, chemistry and space science. Promising, new polymeric materials and protective and silicate coatings have been obtained.

Today the practical contribution of Leningrad scientists to an increase in the efficiency of public production is determined by fundamental research aimed at finding more productive, new systems with new technological closed-cycle processes and waste-free technologies and developing computer equipment with improved parameters--memory and speed of action--and smaller sizes. For this it is important to develop a general methodology of establishment of integrated complexes suitable for use in industry, construction, transport, communication, the agroindustrial complex and municipal services. All this multiplane activity within the framework of the territorial and sectorial "Intensification-90" Program is coordinated by the Leningrad Scientific Center of the USSR Academy of Sciences.

The main task in this direction is to concentrate the efforts of academic, sectorial and departmental organizations on problems of development of standard series of automated production facilities, eliminating unnecessary parallelism and duplication in research and development.

A fundamental improvement in the technology of production on the basis of its overall automation and mechanization is one of the main directions in the present stage of scientific and technical progress. Its practical realization under the conditions of Leningrad, which is characterized by the custom and small-series type of production in machine building and instrument making, acquires special importance. The changeover from individual automation systems to flexible automated integrated production complexes and production facilities will make it possible to ensure a significant increase in the rates of growth of production efficiency and to reduce production areas and the proportion of workers employed in manual and heavy physical labor (this especially applies to loading-unloading and auxiliary operations, where hundreds of thousands of people work today). As an example, we would like to note that the introduction of 156 manipulating robots at the Petrodvorets Clock Plant in the last few years has made it possible to increase labor productivity six-fold and to disengage 300 people.

In accordance with the "Intensification-90" Program 19 integrated production complexes, 54 flexible readjusted systems, 41 technological robot complexes, 71 systems for automated technological preparation and automation of planning work and 21 automated control systems are to be introduced into the industry of the city and oblast in 1984-1990.

The automation of technological processes will bring about an accelerated development of the production of computer hardware and machine tools with numerical program control. On the basis of existing computer centers for collective use and multiprocessor control systems a unified information computer network is being established in the region. It will make it possible to realize in practice the solution of the problem of all-around automation of the "planning-production" process.



The development of technological processes efficient and economical from the point of view of both labor expenditures and the utilization of raw materials, power and other resources is an important factor in production intensification in the region's national economic sectors. Among them the following are of paramount importance: waste-free technology, progressive shaping and cryogenic and laser technology. An important role is assigned to a decrease in the proportion of the expenditure of rolled ferrous metal products, an extensive replacement of nonferrous metal with cheaper materials, a reduction in the norms of fuel expenditure, an increase in the output of finished products from raw materials and an extensive application of synthetic materials.

In this system of measures a significant place is assigned to the introduction of powder metallurgy, replacement of metal cutting with stamping and increase in the wear resistance of parts through thermal treatment. As a result, a significant increase in the productivity, efficiency, reliability and durability of machines, instruments and equipment and in the service life of engines, a decrease in the weight of machines per unit of power and, ultimately, a high quality and a reduction in the production costs of products are expected.

Improvement in production organization is an important direction in the region's economic intensification. The task of improving the structure of the national economic complex--top-priority, outstripping development of the sectors of Leningrad and the oblast determining the acceleration of scientific and technical progress in the country--is an important direction in the region's economic intensification. This applies primarily to science--the cornerstone of scientific and technical progress. Taking into consideration the fact that the Leningrad national economic complex has big potentials for the performance of fundamental research and for the development of advanced types of new equipment, materials and technological processes, in the future plans are made to specialize the region's science and production in the development and experimental mastering of the latest products. Specific measures for the further development of experimental production facilities, for an extensive utilization of collective forms of operation of expensive apparatus, in particular measuring equipment, and for an improvement in information support for research and development are envisaged.

To strengthen the relations of science with production, the practice of organization at associations and enterprises of temporary scientific-production subdivisions for key national economic problems and scientific and technical tasks of an intersectorial nature and for strengthening the relations of enterprises and organizations consuming new equipment with organizations engaged in development, mastering and production will be expanded even more in the future.

The structure of industrial production is being improved through the top-priority, outstripping development of sectors of the Leningrad national economic complex determining scientific and technical progress and the change in intrasectorial proportions. For the purpose of developing an efficient sectorial structure of industry, the policy of an accelerated development of the key sector of the region's specialization--machine building, especially such subsectors as power, tractor and agricultural machine building, machine building for light and food industries, machine tool building, ship building, instrument making, radio electronics and transport lifting, chemical and petrochemical machine building--will be completed. Electric power engineering will also begin

to develop at outstripping rates, mainly through the expansion and retooling of existing thermal electric power stations with the installation at them of fuel saving units with higher unit powers and improved technical parameters. The fuel industry (which, basically, meets the region's needs), the timber complex (since timber resources are reduced), ferrous and nonferrous metallurgy (owing to the lack of a sufficient raw material base) and the construction materials industry (in connection with the satisfaction of the bulk of the region's needs) are to be developed at lower rates as compared with the industry as a whole and sectors determining scientific and technical progress. Such directions in the development of sectors will make it possible to ensure an improvement in intrasectorial proportions. The specialization of Leningrad's industry in accordance with the developed long-term program is to be improved through a rise in the technical level of production, including the creation of appropriate working conditions on the basis of a systematic closing and withdrawal of nonspecialized enterprises and shops (production facilities) located in unadapted structures harmful in terms of sanitation and fire hazard or connected with inefficient transportation of raw materials and finished products.

In measures aimed at labor productivity growth and an improvement in the quality of output an important place is assigned to a rise in the level of specialization and cooperation of enterprises, the development of intersectorial relations, the strengthening of integration processes and an extensive introduction of unification and standardization and economically advisable forms of organization and management of production. In the future, along with the intensification of sectorial specialization, the level of intersectorial cooperation will rise. A system of large specialized enterprises producing pig iron, steel and nonferrous castings, forgings, stampings, plastic articles, means of production and machining attachments will be formed in the region. In particular, plans are made to establish unified regional flexible automated centers on the basis of mass types of technologies. For example, the output of printed circuit boards on the basis of flexible technology with the replacement of traditional boring and electroplating methods with methods of laser treatment and vacuum deposition has been entrusted to the Leningrad Electromechanical Plant imeni 60-Letiya SSSR association. The problem of machining base members, whose flexible technology will be developed at the Leningrad Machine Tool Building Association imeni Sverdlov, is solved in a similar way. The centralized manufacture of tools from metal powder is being organized at the Sestroretsk Tool Plant imeni Voskov.

The output of these enterprises is to be distributed on the basis of cooperated relations among all the enterprises of national economic sectors in Leningrad and the oblast regardless of their departmental affiliation. The establishment of efficient economic relations on a regional scale will make it possible to significantly lower transport costs.

The "Intensification-90" Program lays the foundation for an extensive utilization of computer hardware and for the development of automated systems in the Leningrad agroindustrial complex. Calculations show that the introduction of computers into this sector and the development of automated control systems will contribute to an increase in the output of agricultural products by 5 percent and to a decrease in specific expenditures on their production by 10 to 12 percent. Thus, the automation of technological processes with the use of

computers in the oblast's hothouse combines will make it possible to save up to 30 or 40 percent of the fuel and to increase the yield of vegetable crops by 25 to 30 percent with a simultaneous decrease in the expenditures of manual labor. The development of the "urozhay" /harvest/ automated control system, which envisages the mastering of scientifically substantiated farming management on the basis of the programming of harvests on the oblast's entire sown area, is to be developed by 1990. This will increase the yield of agricultural crops by one-third.

Among the key directions in the intensification of agricultural production the system of measures for its industrialization on the basis of overall mechanization and electrification in combination with an improvement in technology should be mentioned. The utilization of the achievements of genetics and selection will make it possible to develop new varieties of agricultural crops and highly productive animal breeds. An increase in soil fertility will be attained on the basis of chemicalization, mechanization and the introduction of harvest programming systems.

The application of advanced technology at fruit and vegetable bases will raise labor productivity 1.8-fold and reduce losses 1.7-fold. A total of 6,000 people diverted from basic production for the processing of fruit and vegetable products will be absolutely freed every day.

Work on the development and production of advanced materials, articles and structures (including with given properties), introduction of small-scale mechanization equipment and improvement in the technology, organization and management of building production forms the basis for the further increase in the efficiency of the region's construction complex.

Measures have been envisaged for a gradual transition of the Territorial Main Administration for Construction in Western Regions of the RSFSR, which carries out industrial construction in Leningrad and the oblast, to a turnkey delivery of projects with a partial transfer of the functions of the client with respect to construction planning and the provision of construction projects with engineering equipment to the main administration and its switchover to work under the conditions of full self-support.

In the very near future provision has been made to complete the establishment of regionalized housing-construction associations in Leningrad and to speed up the development and introduction of a unified catalog of structures in large-panel house construction. This will make it possible to reduce the number of brands of articles for dwelling houses to less than two-thirds, to ensure the saving of metal and to lower the labor expenditures on the manufacture and installation of structures. A transition to the planning, financing and construction of projects in new microregions as a unified complex including all projects for cultural and general purposes is envisaged in the future.

Practical ways of accelerating scientific and technical progress in the region's transport system are connected with the following: improvement in the rolling stock on the basis of an outstripping development of advanced types of transport; reconstruction and retooling of transport enterprises; change in technological processes on the basis of extensive automation of basic and auxiliary sectors; establishment of pneumatic transport systems; expansion of container and package transportation.

The intensification of the communication sector envisages the development of "secondary" communication networks (telephone, telegraph, television and other networks) on the basis of a unified "primary" network: extensive introduction of automation of processes of connections and network control; transition from electric channel switching equipment to electronic systems with program control from computers.

The general orientation of the acceleration of scientific and technical progress in the sectors of the service sphere of the Leningrad national economic complex will consist in ensuring an efficient utilization of the population's free time. For example, calculations show that by the year 2005 the share of socially organized time in the total expenditures of the population's nonwork time should approximately double, which in the end will reduce nonwork time expenditures on meeting material and domestic needs to one-third or one-fourth. The development and realization of an entire system of measures for the reconstruction and retooling of existing enterprises in the service sphere, introduction of new forms of granting services and improvement in the technology, mechanization and automation of the process of servicing the population lie ahead.

An improvement in the structure of capital investments and an increase in the share of reconstruction and retooling of enterprises are the necessary conditions for the development of scientific and technical progress. The solution of the most important tasks of social development connected with the construction of housing and projects for cultural and domestic purposes and public health will require a more extensive utilization of the share participation of ministries and departments.

The acceleration of scientific and technical progress is inseparable from the development of society's main productive force--man--because the intensification of labor specialization brings about the emergence of ever newer occupations and requires a constant improvement in workers' skills, the training of highly skilled personnel and the establishment of a system of personnel training and retraining in higher educational institutions, vocational and technical schools and industry, which corresponds to the tasks of the present stage in the region's development.

The existence of a significant number of higher educational institutions and of a harmonious system of personnel retraining and the increasing scale of training of specialists in the system of vocational and technical education create favorable conditions for the accomplishment of this important task. We would like to note, for example, that beginning in 1977 Leningrad vocational and technical schools have admitted and turned out skilled workers only with secondary education. More than one-third of the graduates complete schools with a higher category. More than 70,000 people in more than 300 specialties are annually sent to the national economy from vocational and technical schools.

A significant number of measures for the intensification of scientific and technical progress are connected with an improvement in production organization and the introduction of advanced forms of organization of the labor process, including brigade forms. New possibilities in this direction consist in large-scale



economic experiments in the improvement in the wages of designers and technologists and in the extension of the rights and increase in the responsibility of enterprises for the end results of economic activity conducted in accordance with the decision of the CPSU Central Committee at a number of Leningrad associations.

The decree by the CPSU Central Committee and the USSR Council of Ministers "On Measures for the Acceleration of Scientific and Technical Progress in the National Economy" considers it necessary to expand the application of goal-oriented program planning of the development of science and technology. Objective prerequisites for the need for such an approach in the Leningrad region are determined by the complexity of the sectorial and departmental structure of the economy, by the diversity of external and internal economic relations and, finally, by the vast role of Leningrad enterprises and scientific collectives in the solution of problems concerning an increase in the efficiency of the country's unified national economic complex. The organizational structure of development of such programs fully corresponds to the system of formation of long-term overall plans existing in Leningrad and the oblast. The plan for an overall economic and social development of Leningrad and the oblast now includes assignments for more than 140 all-Union scientific and technical programs. The territorial and sectorial "Intensification-90" Program occupies a special place among territorial programs.

More than 330 enterprises and organizations of 99 ministries and departments took part in its development. All the assignments and stages of previously developed all-Union goal-oriented overall programs, such as the Food Program and the Energy Program, as well as of territorial programs aimed at the saving of metal and labor resources, improvement of the transportation and storage of agricultural products, establishment of waste-free production facilities and so forth, have been included in the above program.

The "Intensification-90" Program is an all-Union goal-oriented scientific and technical program. Its basic assignments are included in the state plan and form part of statistical reporting.

The management of the realization and control over the course of fulfillment of the program as a whole are carried out by the scientific-coordinating center of the Council for Economic and Social Development and for the Acceleration of Scientific and Technical Progress under the oblast party committee. Its working organs are the Leningrad Scientific Research Computer Center of the USSR Academy of Sciences (scientific support); the Planning Commission of the Leningrad City Executive Committee (planning support); the Scientific-Production Vympel Association (control).

The realization of the assignments of this major scientific and technical program will make it possible to intensify the role of intensive factors in expanded reproduction in all the national economic sectors of Leningrad and the oblast.

The system of long-term goals of the economic and social development of Leningrad and the oblast and the above-noted directions in the acceleration of scientific and technical progress have become the basis during the preparation of a number of important preplanning documents. The latter include primarily drafts

of the Regional Overall Program for Scientific and Technical Progress in Leningrad and Leningrad Oblast for the Period Until 1986-2005, of the Territorial Scheme for the Development and Distribution of the Region's Productive Forces for the Period Until the Year 2000, of the goal-oriented overall program for a reduction in manual labor and some others. Additional potentials for an increase in the efficiency of public production have been uncovered in the process of development of the mentioned programs with the active participation of head sectorial and departmental organizations and enterprises and organizations of all the sectors of the Leningrad economy. They make it possible to significantly raise the level of labor productivity, to improve the quality of Leningrad articles, to increase the amounts of saving of labor, material and financial resources and to more efficiently and fully utilize all the existing potential.

The long-term development of scientific-technical, demographic and ecological forecasts has made it possible right now to more objectively and purposefully approach the development of the concept and basic directions of the economic and social development of Leningrad and Leningrad Oblast until the year 2000 and to determine the main goals and tasks subject to accomplishment during the 12th Five-Year Plan. However, it is quite obvious that all this does not signify a final solution of all the problems concerning an acceleration of scientific and technical progress. Work in this direction has just begun and has given the first reassuring results. To ensure the realization in practice of all developments and the further strengthening of the relations of science with production and of production with science--this is the guarantee of success for the implementation of party and government decisions on increasing the efficiency of public production.

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